

WELL

BUILDING STANDARD

OVERVIEW



FURNISHING ENVIRONMENTS THAT **WORK**

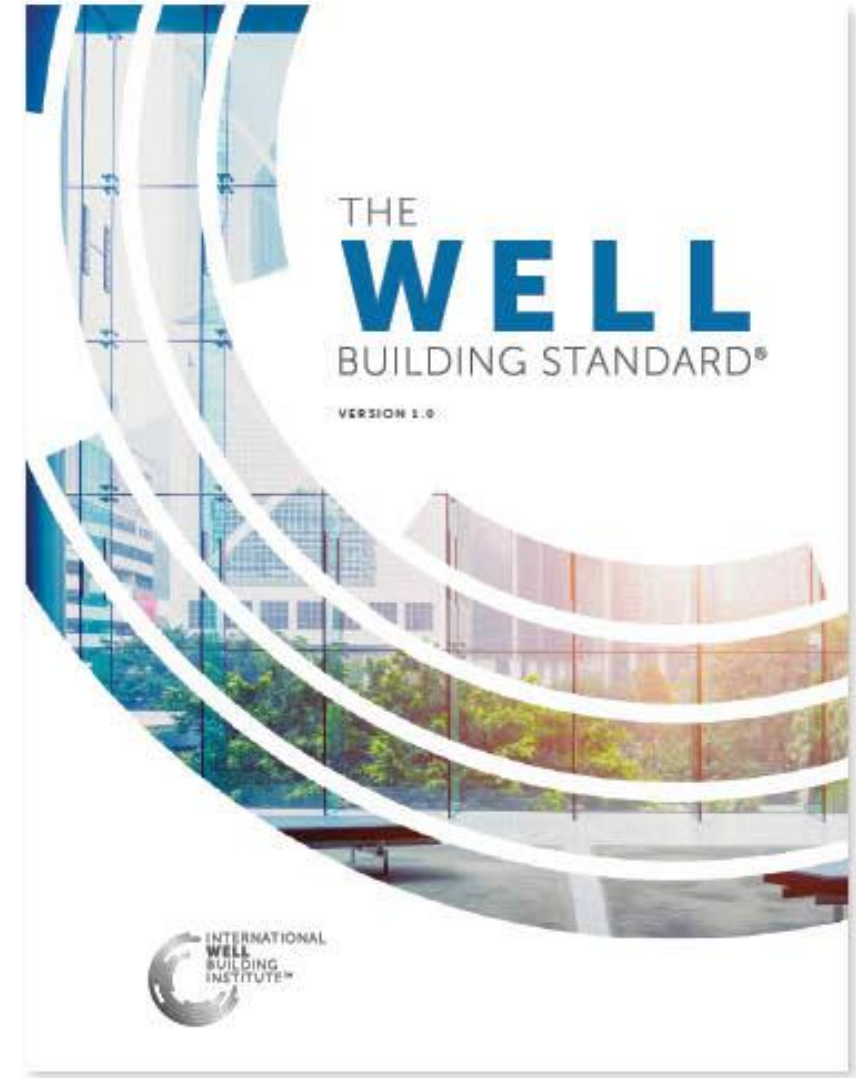
- www.uiinteriors.com

A person with their back to the camera, wearing a pink sweater, is looking out a large window. The window shows a bright, sunny outdoor scene with buildings and a railing. A large blue circle is overlaid on the image, containing the text 'WELL IS FOR PEOPLE' in white.

WELL

IS FOR PEOPLE

- Provides a model for design and construction to integrate human health features in the built environment
- Is a performance-based system to measure impact of built environment on human health





We spend 90%
of our time *indoors*.

Unlock *human potential*
through your building.



ASSURANCE



PERFORMANCE



VISIBILITY

“The trends all point in a single direction – more and more consumer spending on health and wellness...
WELLNESS IS THE NEXT TRILLION DOLLAR INDUSTRY
as employers invest in healthy living programs and
as customers take more responsibility for optimizing
their own health.”

- McKinsey and Company

Design for Healthy Behaviors is ranked **#1** as both most transformative and fastest-moving sub-trend of the Health and Well-Being macro-trend.

- ASID Industry Outlook, 2015



Health, Well-being and Productivity in Offices: The Next Chapter for Green Buildings

Occupant health outcomes:

The physical office factors influence the health of occupiers (health outcome) which can be measured or evaluated.

Health:

- Headaches
- Eye strain/damage
- Skin irritation
- Infections
- Fatigue
- Season Affective Disorder
- Asthma & breathing disorders
- Stress & depression
- Other physical complaints, e.g. back ache
- Other serious disorders, including cardio vascular etc.

Occupant well-being and perception outcomes:

Health is an important element of wellbeing, but an occupant's sense of wellbeing is also comprised of their perception of numerous factors, including how productive they think they are:

- Perceived physical health
- Perceived psychological health
- Perceived productivity
- Perceived office environment
- Perceived organizational culture

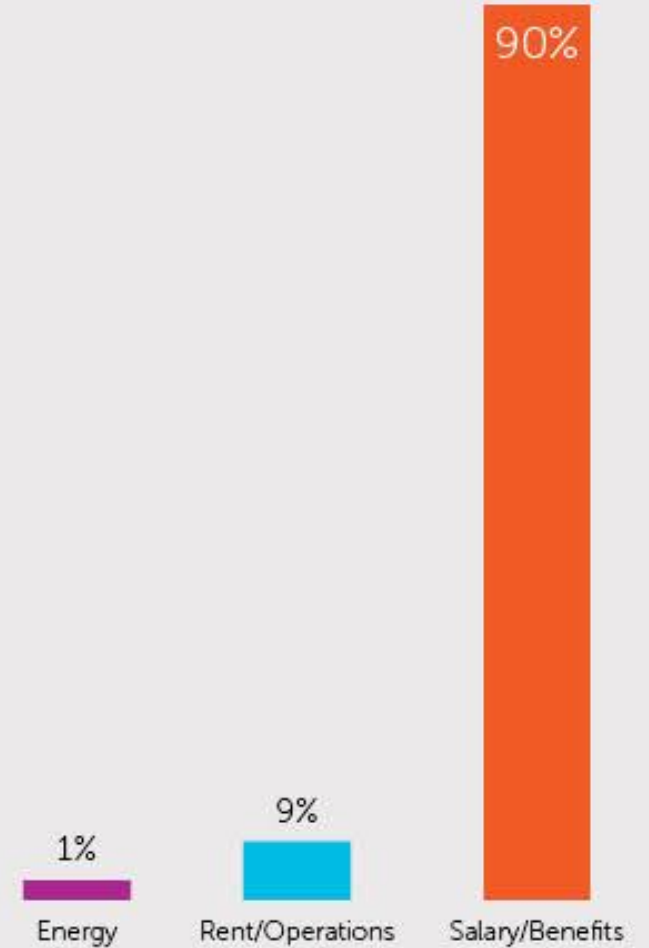
Organizational or financial outcomes:

The office environment can have a direct impact on occupant productivity, in which health and well-being is often a compounding factor. This 'outcome' for the organization can be measured or evaluated in the following ways (not exhaustive), all of which have financial implications for the employer.

Productivity:

- Absenteeism
- Presenteeism
- Staff turnover/retention
- Revenue
- Medical costs
- Medical complaints
- Physical complaints
- Task efficiency & deadlines met

Invest in *people* for
return on investment.



¹Knoll Workplace Research "What's Good for People, Moving from Wellness to Well-Being", Kate Lister 2014

²Studies include those conducted by organizations including Harvard Business Review, World Economic Forum and the American Journal of Health Promotion,

Image courtesy of World Green Building Counsel Report "Health, Wellbeing & Productivity in Offices"

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90%

of employees admitted that their attitude about work is adversely affected by the quality of their workplace environment.

Corporate Health & Wellness

50% of U.S. employers with 50 or more employees, or 3/4 of the workforce, offer wellness promotion initiatives.¹

49% of U.S.-based companies say health and productivity programs are essential to their company strategy.²

“91% of employers report offering health and wellness programs for reasons beyond medical cost saving.”³

“Within the next 3-5 years, we can expect 99% of employers to offer health improvement and wellness programs.”⁴

¹Workplace Wellness Programs Study, 2013, Rand Corporation.

²The Business Value of a Healthy Workforce, Staying@Work™ Survey Report 2013/2014, Towers Watson.

³Beyond ROI: Building employee health & wellness value of investment, 2015, Optum, Inc.

⁴Aon Hewitt 2013 Health Care Survey, Aon plc.

Corporate Health & Wellness

59% of U.S.-based companies plan to design and implement a *unique* health and productivity strategy in the next 3 years

84% of U.S.-based companies plan to increase health and productivity program support over the next 2 years

Consumer Demand for Healthy Homes

WELLNESS PREMIUM

BY AGE OF HOMEOWNERS

Studies demonstrate consumer demand for health and wellness and consumer willingness to pay premium for healthy homes.





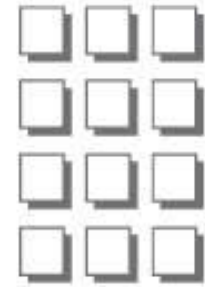
WELL

GREEN

IWBI



GBCI



GREEN BUSINESS®
CERTIFICATION INC.

Ensuring that certification for *WELL*
and *LEED* works seamlessly.

WELL Certification Process



THE WELL DIFFERENTIATOR

Data Driven Environmental Assessments Through Onsite

PERFORMANCE VERIFICATION

BRINGING WELL TO PRACTICE


Industry Experts on Healthy Environments

WELL ACCREDITED PROFESSIONAL (WELL AP)

Levels of WELL Certification



Seven Concepts




air




water




nourishment



light



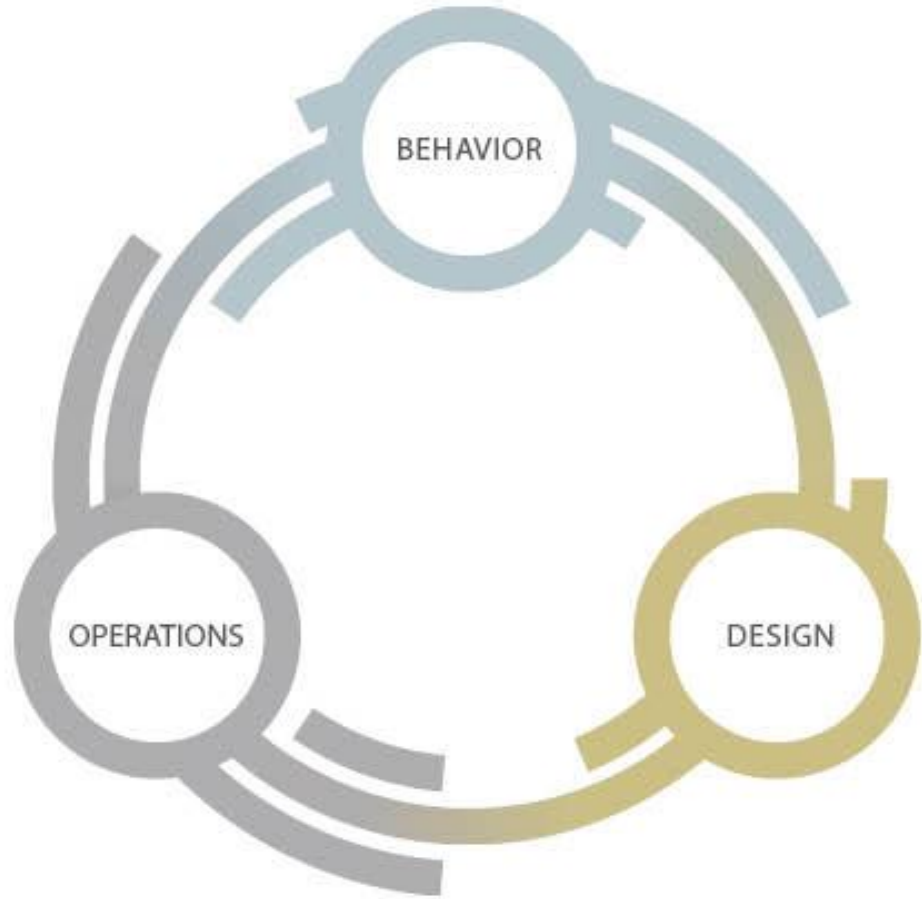
fitness



comfort



mind



WELL Features evaluate ongoing aspects of building performance and occupant behavior to support the operations and maintenance of healthy buildings throughout the building lifecycle.

Body Systems Applied to WELL Features

A simple way to express the built environment's complex impact on the human body



- Cardiovascular
- Digestive
- Endocrine
- Immune
- Integumentary
- Muscular
- Nervous
- Reproductive
- Respiratory
- Skeletal
- Urinary

air

Create optimal indoor air quality to support the health and well-being of building occupants.

material selection · ventilation · filtration · moisture control · maintenance & operations · source of concern protection · construction processes

Productivity improvements of 8-11% are not uncommon as a result of better air quality.

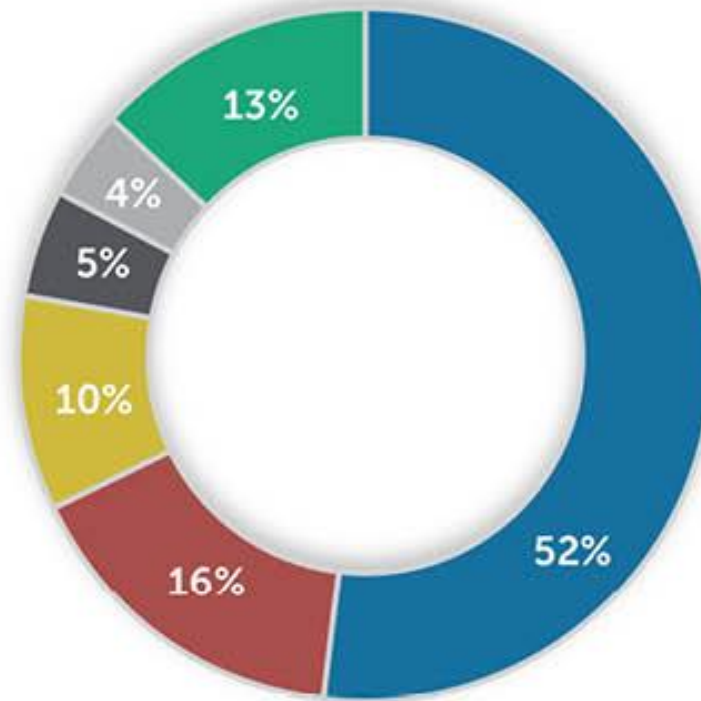
- World Green Building Council, 2015¹

Concentrations of some pollutant indicators can be 2 to 5 times higher indoors compared to outdoors.

- Environmental Protection Agency, 2012²

¹Health, Wellbeing & Productivity in Offices: The next chapter for green building, 2015. World Green Building Council.
²Environmental Protection Agency. Volatile Organic Compounds (VOCs). An Introduction to Indoor Air Quality (IAQ).
[Online] Jul 9, 2012. [Cited: November 10, 2014]. <http://www.epa.gov/iaq/voc.html>.

SOURCES OF INDOOR AIR QUALITY CONCERN



- **INADEQUATE VENTILATION**
- **CONTAMINATION FROM INSIDE BUILDING**
- **CONTAMINATION FROM OUTSIDE BUILDING**
- **MICROBIAL CONTAMINATION**
- **CONTAMINATION FROM BUILDING FABRIC**
- **UNKNOWN SOURCE**

water

Promote safe and clean water through proper filtration and other methods, and require the appropriate quality of water for various uses.

performance testing · treatment · maintenance & operations · hydration promotion



“Declining water quality has become a **global issue of concern** as human populations grow, industrial and agricultural activities expand, and climate change threatens to cause major alterations to the hydrological cycle.”¹

Being dehydrated by just **2%** can impair performance in tasks that require attention, psychomotor and immediate memory skills, as well as assessment of the subjective state.²

It’s been estimated that up to **80%** of the U.S. adult population goes through their normal day in at least a mildly dehydrated state.³

¹ Policy Brief, UN Water, 2011.

² Cognitive Performance and Dehydration, Ana Adan, PhD. Journal of the American College of Nutrition, Vol. 31, No. 2, pp. 71-78 (2012).

³ Avoid Dehydration in the Workplace, Mike Marcovsky. ISHN, 2009.

nourishment

Require the availability of fresh, wholesome foods, limit unhealthy ingredients and encourage better eating habits and food culture.

*healthy portions · mindful eating · food production
access to healthy foods · food preparation
allergies & alternatives · transparency
environmental cues & influencers*



Eating unhealthily is linked with a **66%** increased risk of loss of productivity.¹

Adults with the greatest knowledge of nutrition
are **25%** more likely to eat a healthy diet.²

Greater fruit and vegetable intake is associated
with a **27%** lower odds of depression.³

¹ Population Health Management, Vol. 17, 2014.

² Nutrition Knowledge and Food Intake. Wardle, J, Parmenter, J and Waller, J, s.l.: ELSEVIER, 2000, Vol. 34, pp. 269-275.

³ The association between fruit and vegetable consumption and mental health disorders: evidence from five waves of a national survey of Canadians. McMartin, SE, FN, Jacka and Colman, I, 3-4, s.l.: Preventative Medicine, 2013, Vol. 56.

light

Provide illumination guidelines to minimize disruption to the body's circadian system, enhance productivity and provide appropriate visual acuity. Require specialized lighting systems designed to increase alertness, enhance occupant experience and promote sleep.

circadian design · daylighting · glare control · color quality · activity-based lighting levels · visual acuity

Focused work increased by **15%** for those who had window views.¹

Lack of access to natural light in workplaces and schools possess a **26%** health hazard.²

Lack of natural light is considered the number one workplace health hazard by **36%** of psychologists and psychiatrists.²

Circadian Lighting Emulates the Natural Environment

The eyes detect light and send this information to the brain, triggering the calibration of our 24-hour cycle. Light has impacts on human health and well-being outside of image formation and color perception – including:

calibration of the body's biological clock and circadian rhythms

direct effects on alertness, mood and cognition



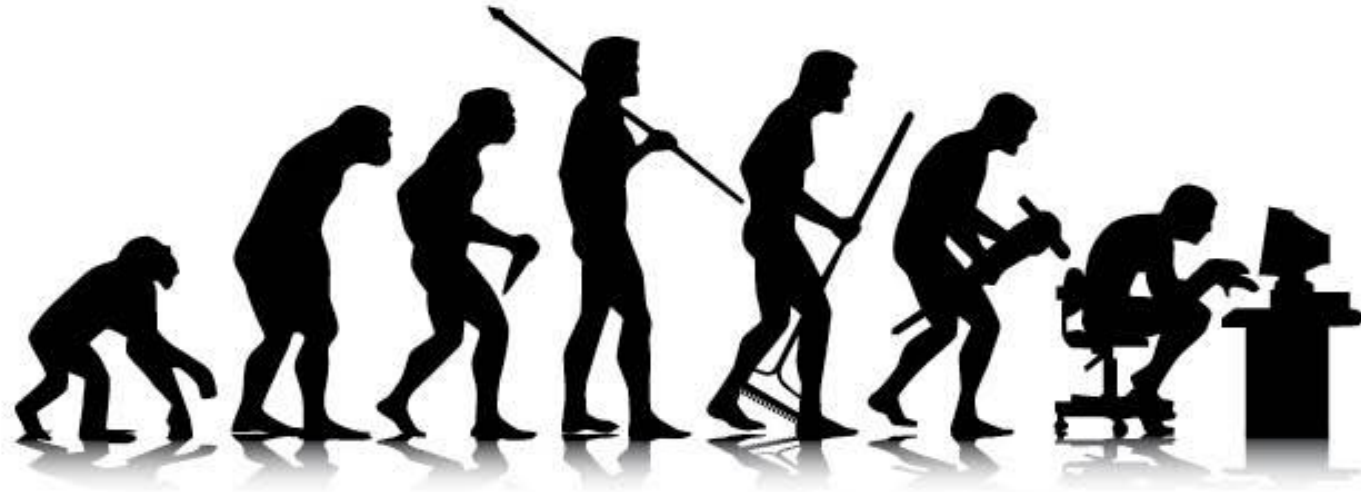
fitness

Allow for the seamless integration of exercise and fitness into everyday life by providing the physical features and components to support an active and healthy lifestyle.

*exterior active design · interior active design ·
activity-based working · physical activity spaces ·
awareness and habits · physical activity programs*



Our environment is changing how we live.



Physical inactivity is the **4th leading** risk factor for mortality.

“Rare exercise is linked with **50%** increased risk of low productivity.”¹

Healthy workplaces can lead to improved employee **productivity**, reduced absenteeism and staff turnover, less accidents, fewer insurance and worker compensation claims, as well as **lower costs** related to retirement.²

¹ Population Health Management, Vol. 17, 2014.

²Heart and Stroke Foundation. Walk BC. British Columbia Recreation and Parks Association. [Online] [Cited: January 28, 2015.] http://www.walkbc.ca/sites/default/files/walkbc/step_by_step_a_workplace_walking_resource.pdf.

What happens to your body when you sit for a prolonged period of time?

Calorie burning drops to less than **1 per minute.**¹

Cardiovascular, endocrine, digestive, reproductive, respiratory, muscular, skeletal and nervous systems are **negatively affected.**²

Prolonged sitting disturbs **mood, energy levels and productivity.**³

¹Standing based of ce ork sho s encouraging signs of attenuating ost randial glycaemic e cursion. Buckley, J. et al. 2. s.l.: Occupational and Environmental Medicine, February 2014, Vol. 71, pp. 109-11. <http://www.ncbi.nlm.nih.gov/pubmed/24297826>. 10.1136/ oemed-2013-101823.

² IWBI Fitness Wellography, Elements of Fitness: Physical Inactivity

³ Reducing Occupational Sitting Time and Improving Worker Health: The Take-a-Stand Project, 2011. Pronk, N, et al. s.l. : Preventing Chronic Disease, 2012, Vol. 9. http://www.cdc.gov/pcd/issues/2012/11_0323.htm. 110323.



comfort

Establish requirements to create a distraction-free, productive and comfortable indoor environment.

*ergonomic · acoustics · thermal
olfactory · accessibility*



Thermal Considerations

4% reduction in performance at warmer temperatures.¹

6% reduction in performance at cooler temperatures.¹

Acoustic Considerations

66% drop in performance when exposed to distracting noise.²

¹Lan L, Wargocki P, Wyon DP, Lian Z. (2011) Effects of Thermal Discomfort in an Office on Perceived Air Quality, SBS symptoms, physiological responses, and human performance. *Indoor Air* 21:5, pp. 376-90.

²Banbury SP and Berry DC. (1998) Disruption of Office-related Tasks by Speech and Office Noise. *British Journal of Psychology* 89:3, pp. 499-517.



mind

Require design, technology and treatment strategies to provide a physical environment that optimizes cognitive and emotional health.

stakeholder engagement · transparency · wellness awareness & protocols · connection to nature · adaptable spaces · altruism



Biophilia

After 40-second microbreak, subjects who see green roofs, instead of concrete roofs, demonstrate higher concentration levels.

6% increase in concentration levels for those who saw the green roof.

8% drop in concentration levels for those who saw the concrete roof.





LOCUS OF CONTROL

Adaptable spaces give individuals control over their environments, reducing **stress** and **positively impacting** job satisfaction and group cohesion.¹

After just four weeks of using sit-stand desks, subjects report feeling more **comfortable, energized, healthier, happier,** less stressed and more **focused** and **productive.**²

Both private and open areas should be available and comfortable. Private spaces accommodate confidentiality, while open areas facilitate collaboration.³

¹Effects of Control Over Office Workspace on Perceptions of the Work Environment and Work Outcomes. Lee, SY and Brand, JL. 3, 2005, Journal of Environmental Psychology, Vol. 25, pp. 323-333.

²Reducing Occupational Sitting Time and Improving Worker Health: The Take-a-Stand Project, 2011. Pronk, N, et al. s.l.: Preventing Chronic Disease, 2012, Vol. 9. http://www.cdc.gov/pcd/issues/2012/11_0323.htm. 110323.

³Fayard, A and Weeks, J. Who moved my cube? Harvard Business Review. [Online] July 2011. <https://hbr.org/2011/07/who-moved-my-cube>.



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Working together to optimize building performance
for *human health* and our *environment*.

The Value Proposition of WELL: Office

Improved Environment for Employees and Clients

Return on Investment

Industry Leadership + Corporate Communications

Increased Productivity

Improved Employee Satisfaction + Retention

The Value Proposition of WELL: Multifamily Residential

Improved Environment for Residents

Recognition + Market Differentiation for Property

Increase in Value of Property

Positive Impact on Health of Residents

Improved Energy + Quality of Sleep for Residents



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New York, NY | USA



The Center for Sustainable Landscapes
Phipps Conservatory and Botanical Gardens, Pittsburgh, PA | USA

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THANK YOU!

We look forward to working with you.

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