



WATERFRONT
ALLIANCE



Protecting our Assets with Resilient
Waterfront Design

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Presenters



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The Current Landscape



A Rapidly Expanding Built Environment...



It's predicted that **2.6 trillion square feet** of space will be added to the world's building stock, which equates to constructing an entire **New York City every month** for the next 40 years.

This is in addition to the 80% of current buildings that will still be standing by 2060.



...In a Changing Climate

We may expect:

- 10-12 inches higher of U.S. coastline in the next 30 years
- Temperature increases may necessitate construction of new power generation that would cost ratepayers up to \$12B/year
- Up to \$106B of coastal property may be below sea level
- Likely increase in avg. annual losses expected to grow by \$7.3B

Sources: NOAA 2022 Sea Level Rise Technical Report, Risky Business, The Economic Risks of Climate Change in the United States



...Our Waterfronts are at Risk

SMEAL COLLEGE OF BUSINESS

Commercial investors shift perspective of coastal properties in face of climate change



CLIMATE

Climate change is driving insurance rates up, forcing developers to add weather-proofing

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Building for Resilience



Importance of Building Resilience

Over 50% of the U.S. population lives within 50 miles of the coast.

- If we don't adapt current and carefully design new waterfront sites, millions of people and major infrastructure will be subject to destruction and loss
- Uninhabitable buildings will displace many, putting additional strain on an existing housing crisis.



Importance of Building Resilience

- Both the public and private sectors are pledging goals to net zero emissions in response to global climate targets.
- The materials required for renovations of damaged or destroyed infrastructure during major climatic events increases direct and indirect carbon emissions, setting us back collectively.
- Buildings that are designed to withstand a variety of elements are:
 - more efficient,
 - require less maintenance,
 - and protect occupants
- Implementing site design strategies can protect the surrounding community, preventing loss of life and property.



**Guidance & Assurance with
third-party certification**

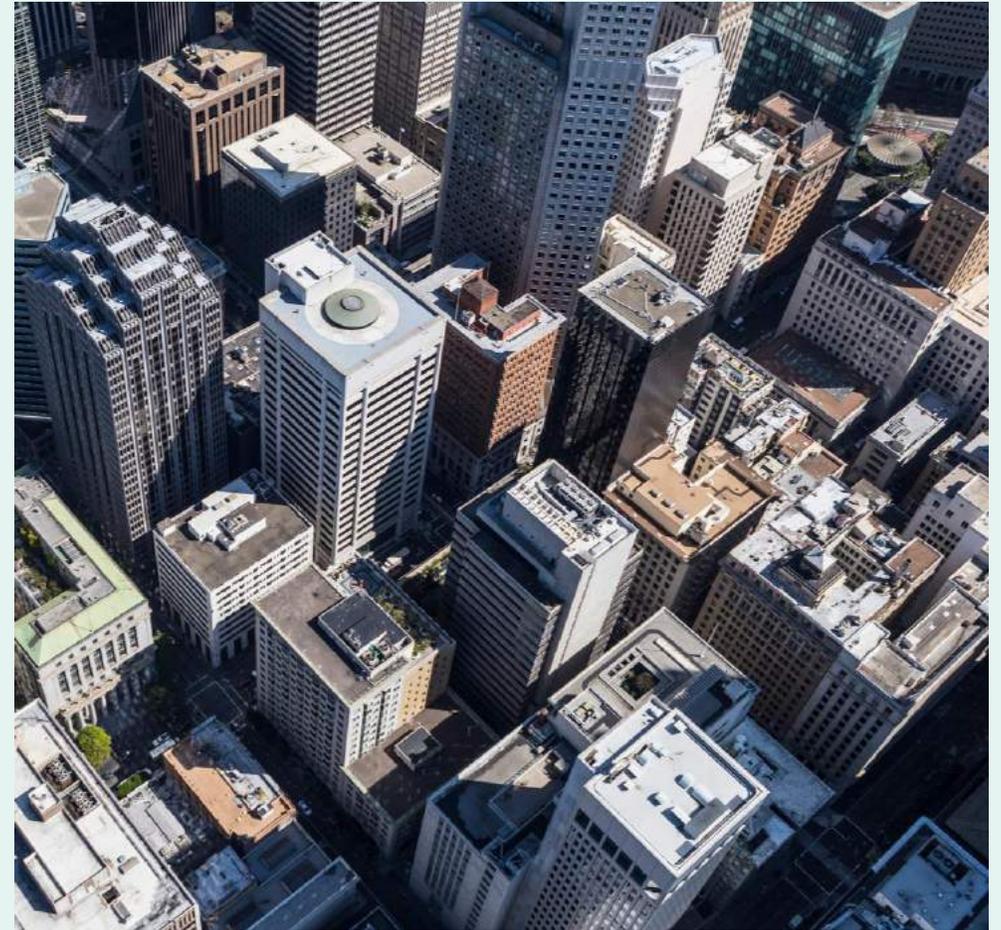




The Green Building Initiative (GBI) is an international nonprofit organization whose mission is to **improve the built environment's impact on climate and society.**

Better buildings, **together.**

Delivering educational roadmaps through our assessment & certification and programs.



Sustainable, healthy, and resilient buildings for all.

GBI'S Green Globes Certification

Rigor Meets Accessibility

- Comprehensive, science-based whole building certification
- Three-in-one certification system that evaluates the environmental sustainability, health & resilience of all types of commercial real estate
- Flexibility allows building owners and managers to select which sustainability features best fit their building and occupants
- Projects must achieve 35% of the total 1,000 maximum points deemed applicable
- Green Globes for NC evaluates the intended performance of a ground up construction, renovation, or addition project.



Why Green Globes is the Preferred Choice

ROI

- Project teams are seeing 5-10% increase on property values for third-party certified commercial real estate
- Certification supports tenant retention and marketing. Tenants are demanding conservation of energy, water and waste, and a healthy indoor environment.
- Green Globes Professionals (GGPs) report that Green Globes is 30-50% less than other certifications.
- Project teams and building owners receive a copy of the final assessment report, which includes recommendations for performance improvement in the future – don't have to pay for additional consulting.

“ The suggestions from our Green Globes Assessor paid dividends, and I noted items I plan to incorporate from the outset on future projects. ”

MONISHA MAHENDRABABU
Assistant Project Manager,
Northwood Raven

Green Globes Online Questionnaire

Benchmark, compare & replicate

1.

INTUITIVE

User-friendly platform offers support and simple navigation.

2.

COLLABORATIVE

Invite contributors to complete as an integrated project team.

3.

EFFICIENT

Clone responses for buildings across a portfolio or for recertification.

4.

ROBUST

Import energy, water, waste, and emissions data for a complete performance tracking system.

5.

INTERACTIVE

View dynamic scoring, access criteria-specific resources, and communicate with the GGA.

Green Globes Environmental Assessment Areas

SI	NC	EB
Project Management	Project Management	ESG Management
N/A	Site	Site
Energy	Energy	Energy
Water	Water Efficiency	Water
Materials & Resources	Materials	Materials
Emissions	N/A	N/A
Indoor Environment	Indoor Environment	Indoor Environmental Quality

Site Environmental Assessment Area

- Addressing Urban Infill & Urban Sprawl
- Greenfields, Brownfields, and Floodplains
- Transportation accessibility to public transit & bike friendly routes, Walkscore
- Construction Impacts including Erosion & Sedimentation Control, minimized site disturbance, preservation of surrounding landscaping, mitigating heat island effect, and preventing bird strikes
- Stormwater management
- Light Pollution
- Wildland-Urban Interface Site Design

Green Globes & WEDG Certifications



Overlapping Criteria

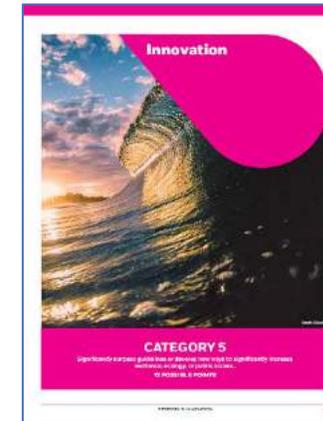
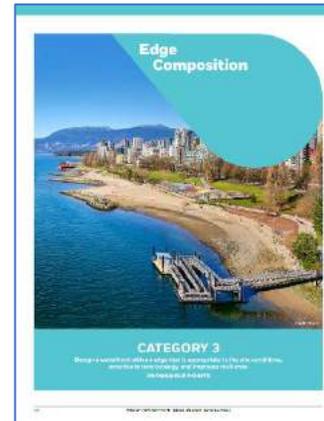
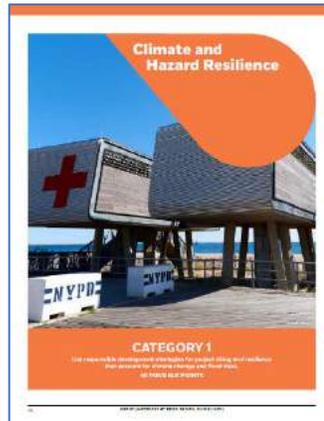
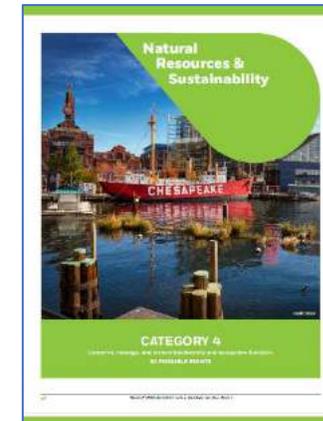
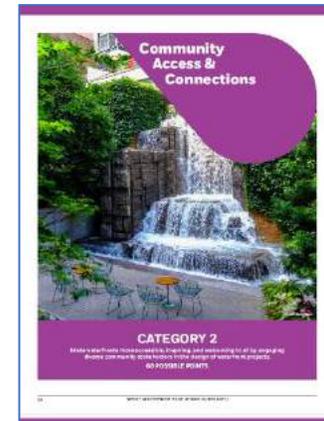
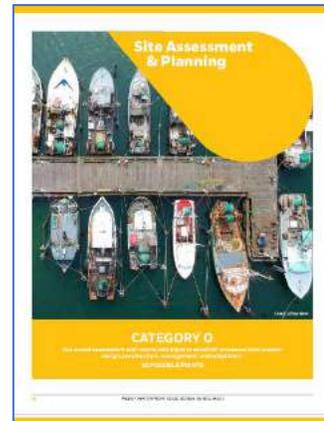
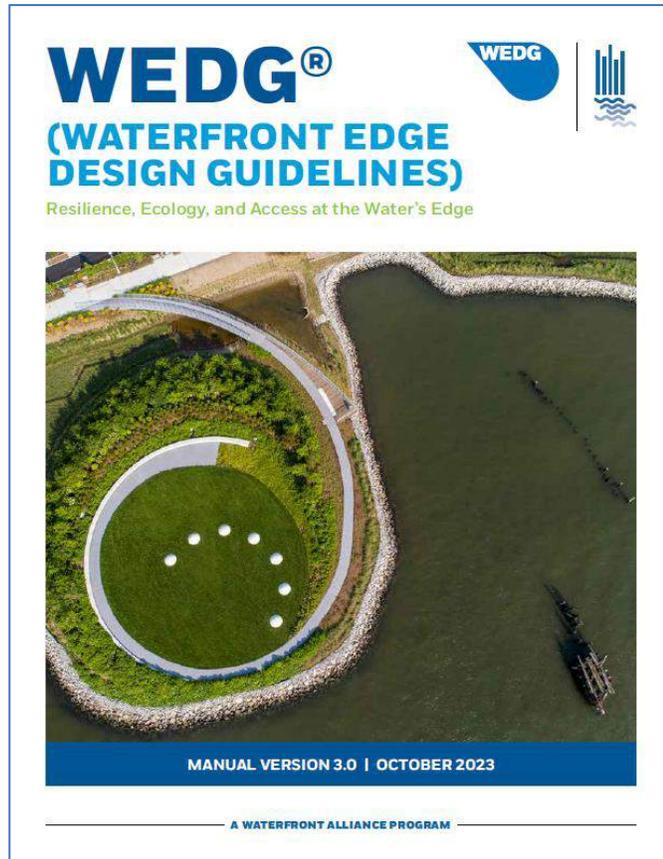
Buildings that have completed a Waterfront Edge Design Guidelines (WEDG) certification will be awarded full credit under Floodplains criteria in Green Globes for New Construction 2024

Green Globes for New Construction

The list of WEDG credits below identifies credits from the Green Globes for New Construction 2021 standards that meet or partially meet the WEDG scoring requirements. Green Globes for New Construction 2021 is not referenced in the WEDG Manual.

- **Credit 1.1:** Responsible Siting and Risk Reduction - Projects satisfying Green Globes Credit 2.1.2.3 are likely to earn at least partial credit in WEDG Credit 1.1.
- **Credit 1.2:** Site with Ecological Sensitivity - Projects satisfying Green Globes Credit 2.1.2.2. and Credit 2.4.1.2 are likely to earn full points in WEDG Credit 1.2.
- **Credit 2.4:** Increase transportation access to the waterfront - Projects satisfying Green Globes Credit 2.2.1.4. will earn at least partial credit in WEDG Credit 2.4.
- **Credit 4.1:** Maintain and Restore Biodiversity and Ecosystem Services - Projects satisfying Green Globes Credit 2.3.2.1 and/or 2.3.3.1 are likely to earn at least partial credit in WEDG Credit 4.1.
- **Credit 4.4:** Avoid Human Disturbances to Natural Resources - Projects satisfying Green Globes Credit 2.3.2.1 and/or 2.3.3.1 are likely to earn at least partial points in WEDG Credit 4.4.
- **Credit 4.5:** Redevelop and Clean Up Degraded Sites - Projects satisfying Green Globes Credit 2.1.2.1 will earn full points in WEDG Credit 4.5.
- **Credit 4.7:** Resilient Energy Source: Projects satisfying Green Globes Credit 3.11B by using onsite renewable energy sources are likely to earn at least partial credit in WEDG Credit 4.7.
- **Credit 4.8:** Practice Environmentally Sustainable Construction - Projects satisfying Green Globes Credit 2.3.2.1 and/or 2.3.3.1 are likely to earn full points in WEDG Credit 4.8.
- **Credit 4.9:** Reduce and Manage Stormwater Quantity: Projects satisfying Green Globes Credit 2.4.1.1 are likely to earn at least partial credit in WEDG Credit 4.9.
- **Credit 4.10:** Improve Stormwater Discharge Quality: Projects satisfying Green Globes Credit 2.4.1.1.2, and/or 2.4.1.1.3 are likely to earn at least partial credit in WEDG Credit 4.10.
- **Credit 4.11:** Reduce Water Use: Projects satisfying Green Globes Credit 2.5.1.4, 2.5.1.5, and/or 4.1.1 are likely to earn at least partial credit in WEDG Credit 4.10.
- **Credit 4.12:** Reduce Contribution to Urban Heat - Projects satisfying Green Globes Credit 2.3.4.1 are likely to earn at least partial credit in WEDG Credit 4.12.

WEDG® (WATERFRONT EDGE DESIGN GUIDELINES)



WEDG Verified Projects



Starlight Park
Bronx, N.Y.



South Battery Park City Resiliency
Manhattan, N.Y.



Bronx Point
Bronx, N.Y.



Great Lakes



Greenpoint Landing Brooklyn,
N.Y.



SIMS Recycling
Brooklyn, N.Y.



Brooklyn Bridge Park
Brooklyn, N.Y.



Domino Sugar
Brooklyn, N.Y.



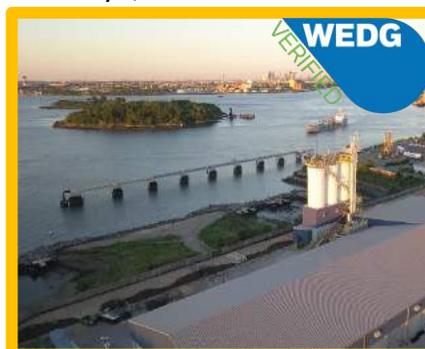
East Side Coastal Resiliency
Manhattan, N.Y.



Hunters Point South
Queens, N.Y.



Sandy Hook Pilots Association
Staten Island, N.Y.



Oak Point/McInnis Cement
Bronx, N.Y.



Riverfront Park
Wilmington, N.C.



Jose Marti Park
Miami, Fla.

HOW RATING SYSTEMS CHANGE THE WORLD



iStock

ESTABLISH CONSISTENT STANDARDS

CELEBRATE GREAT PROJECTS

SET PROJECT TARGETS AND RESULTS

PUSH CHANGE ACROSS FIELD



Wave-Attenuating
Breakwater

Restored Wetlands

Public Access

Elevated Structures

**Oak Point
McInnis Cement
The Bronx, NY**



Community-Driven
Design Process

Direct Connections to
Water

Planted Revetment

Billion Oyster Project
Programming

Bronx Point The Bronx, NY

WEDG AND GREEN GLOBES ALIGNMENT

DIRECT PERFORMANCE CRITERIA ALIGNMENT

- Site with Ecological Sensitivity
- Redevelop and Clean Up Degraded Sites
- Practice Environmentally Sustainable Construction
- Reduce Emissions through Carbon Management

COMPLEMENTARY CRITERIA

- Avoid or Reduce Flood Risk from the Waterbody
- Increase Transportation Access to the Waterfront
- Maintain and Restore Biodiversity and Ecosystem Services
- Avoid Human Disturbances to Natural Resources
- Use Resilient and Renewable Energy Sources
- Reduce Pluvial Flooding and Stormwater Discharge
- Reduce Water Use
- Reduce Contributions to Urban Heat

THE BENEFITS OF WEDG VERIFICATION FOR THE **PROPERTY**

WEDG creates savings through resilience

WEDG leverages maritime activation

WEDG unlocks positive media and press

WEDG enables savings through green infrastructure

WEDG reduces risk through long-term planning

WEDG promotes great design that becomes a selling point

WEDG facilitates productive community engagement

WEDG shows the world you are a leader in design excellence

THE BENEFITS OF WEDG VERIFICATION FOR THE COMMUNITY

Reduced flood risk

Robust and diverse community
engagement

High-quality public spaces

Greenway/transit connectivity

Reduced stormwater burdens

Sustainable practices that improve
health and reduce heat impacts

Workforce development and maritime
jobs

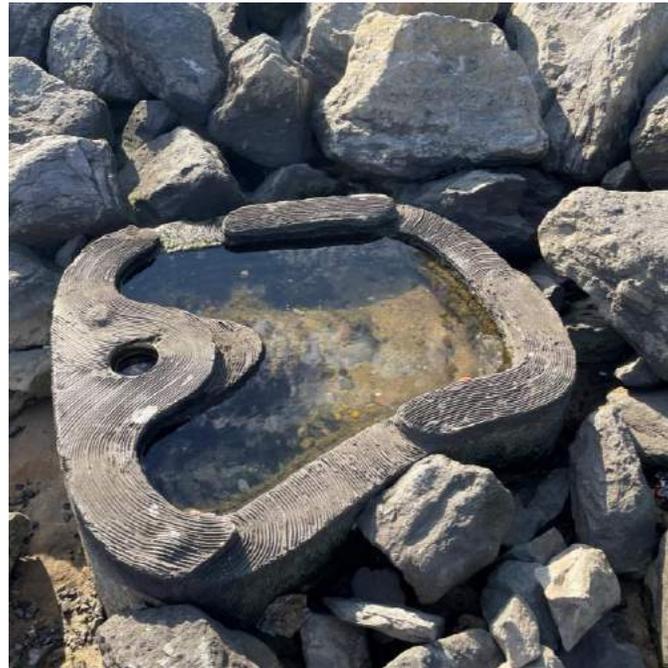
WEDG shows the world you are a leader
in design excellence

WEDG COMPLEMENTS OTHER STANDARDS

RESILIENCE CHALLENGES



ECOLOGICAL SENSITIVITIES



ACCESS OPPORTUNITIES



WEDG POLICY AND FINANCE



Miami, FL



PANYNJ



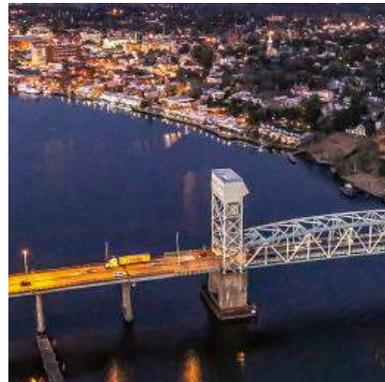
New Rochelle, NY



Camden, NJ



New York, NY



Wilmington, NC



Philadelphia, PA



G R E S B

ESG Standards



**WATERFRONT
ALLIANCE**

Thank You!