



# Massachusetts Energy Cohort & Enterprise Green Communities

September 28, 2022



# Agenda

- 1 WELCOME & OVERVIEW
- 2 OBJECTIVES
- 3 2020 CRITERIA, BY CATEGORY
- 4 CERTIFICATION PROCESS
- 5 QUESTIONS & DISCUSSION

# Workshop Objectives

- 1 UNDERSTAND GREEN COMMUNITIES METHODS THAT PROMOTE HEALTHY, EFFICIENT, RESILIENT AFFORDABLE HOUSING**
- 2 LEARN STRATEGIES TO HELP MULTIFAMILY PROJECTS REDUCE OVERALL UTILITY USAGE WHILE SIMULTANEOUSLY DEVELOPING HEALTHY INDOOR ENVIRONMENTS**
- 3 MASTER HOW TO MAXIMIZE RESIDENT WELLBEING THROUGH CERTIFICATION CHOICES**
- 4 BECOME FAMILIAR WITH THE CERTIFICATION PROCESS, TIMELINE, AND RESOURCES**

# Our Goals

We focus on the greatest need – the massive shortage of affordable rental homes – to achieve three goals:



## Increase Housing Supply

Preserve and produce good homes that people can afford



## Advance Racial Equity

After decades of systematic racism in housing



## Build Resilience & Upward Mobility

Support residents and strengthen communities to be resilient to the unpredictable



# 2020 Criteria

**Integrative Design**



**Operations, Maintenance  
+ Resident Engagement**



**Location +  
Neighborhood Fabric**



**Healthy Living  
Environment**



**Site Improvements**

**Materials**



**Water**



# 1. INTEGRATIVE DESIGN





# 1. Integrative Design

A successful integrative design process engages people, identifies collective priorities, and ensures that sustainability, health, resilience, and placemaking objectives are met.

1.1 Integrative Design: Project Priorities Survey

1.2 Integrative Design: Charrettes & Coordination Meetings

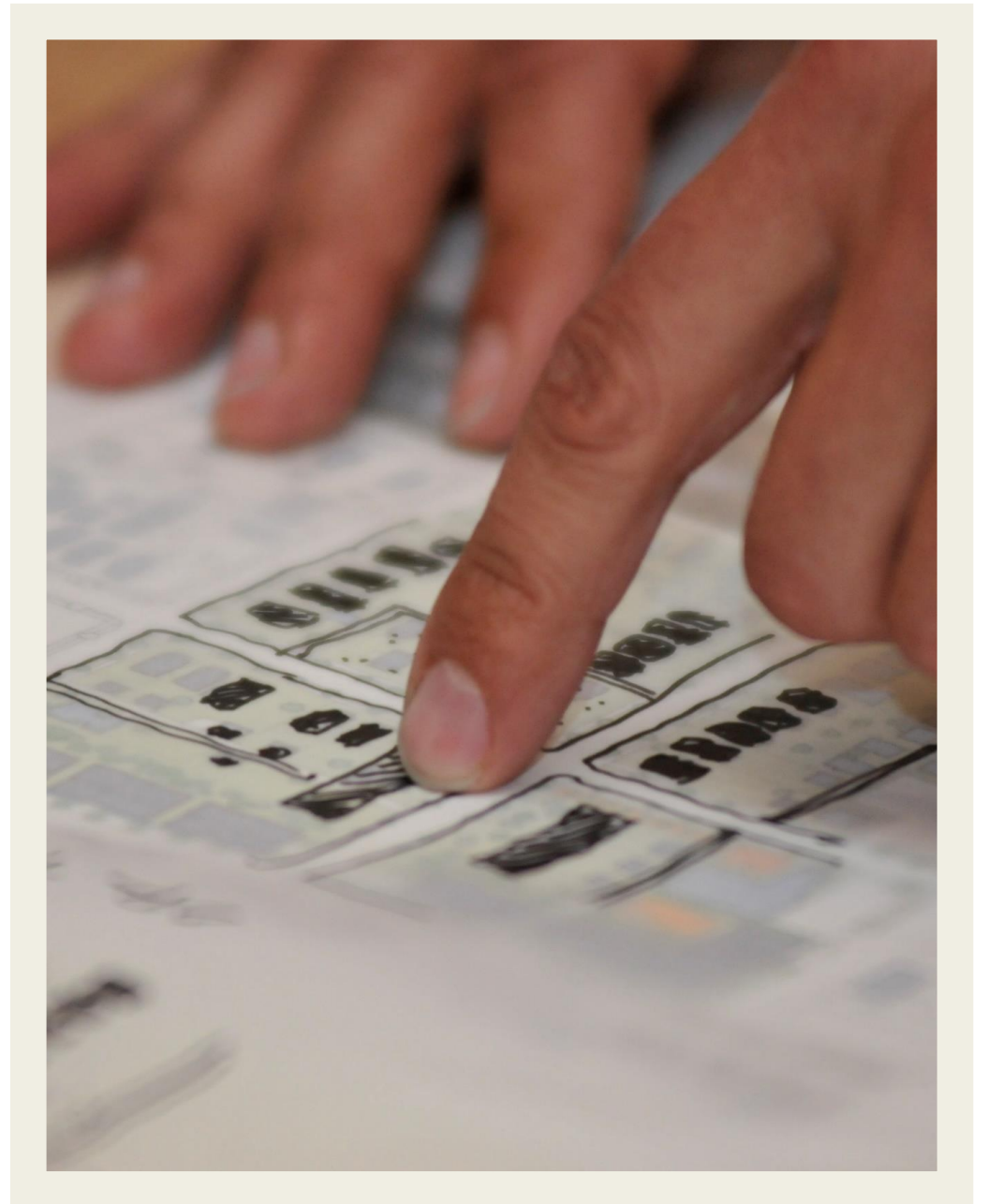
1.3 Integrative Design: Documentation

1.4 Integrative Design: Construction Management

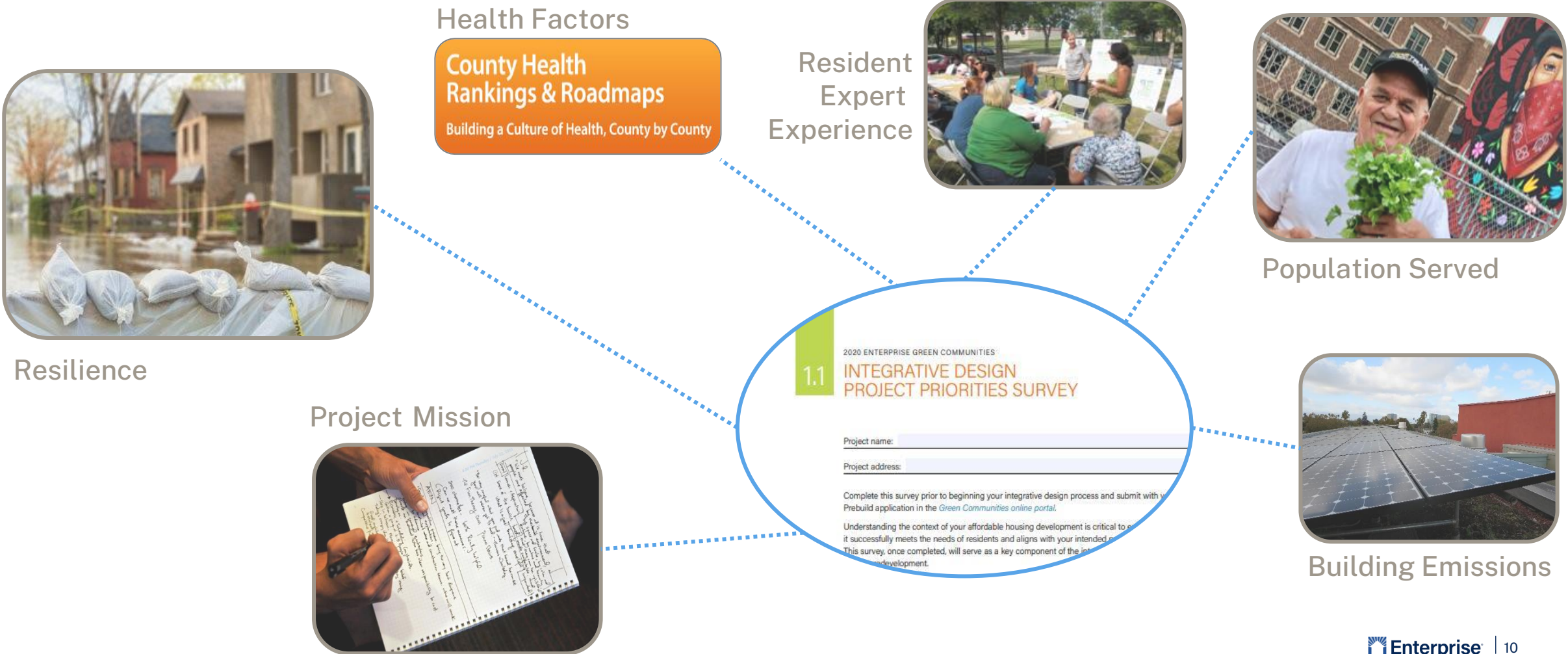
1.5 Design for Health & Well-being: Health Action Plan

1.6 Resilience: Multi-Hazard Risk/Vulnerability Assessment

1.7 Strengthening Cultural Resilience



# 1.1 Integrative Design: Project Priorities Survey (m)



# 1. Integrative Design

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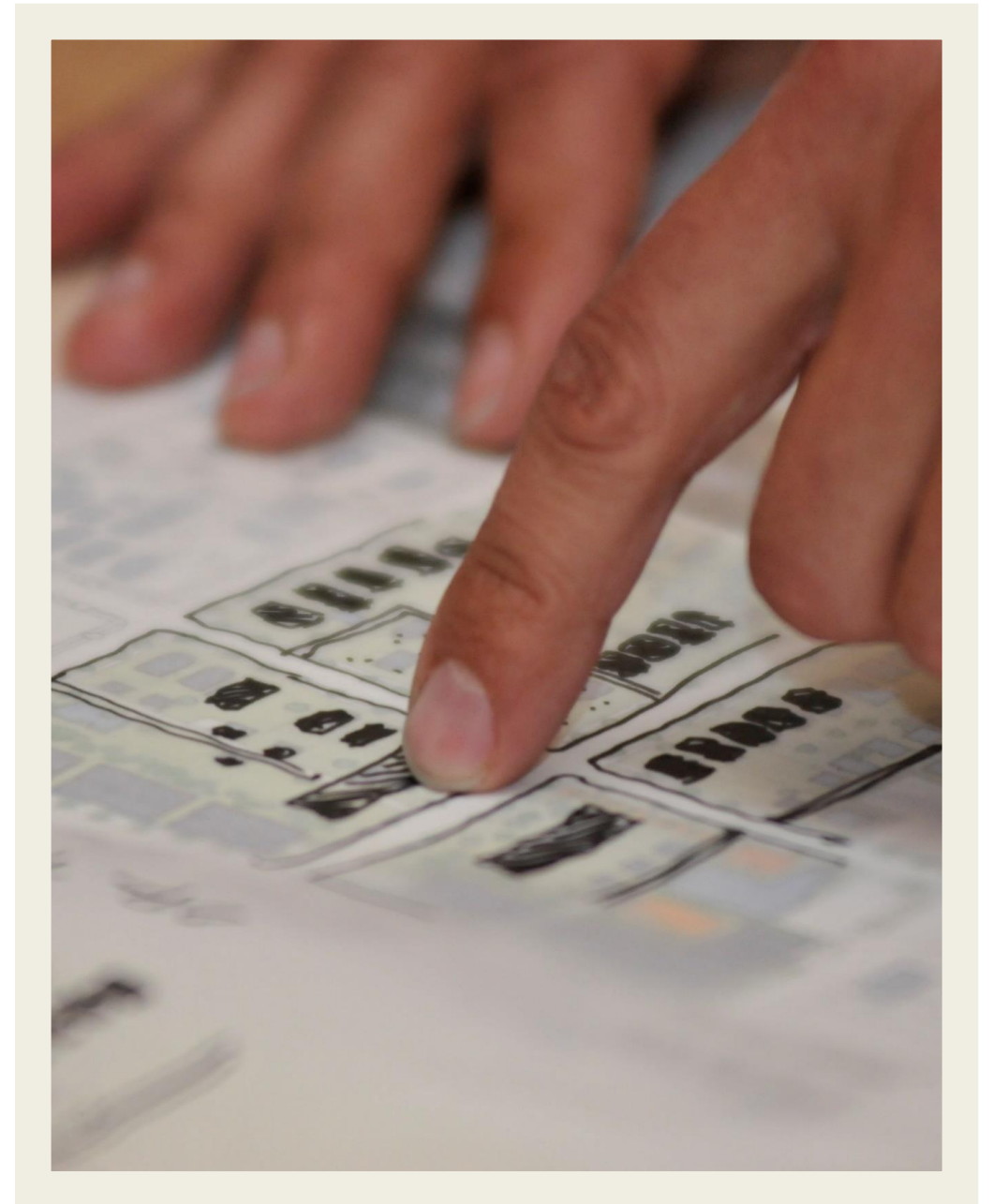
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# 2. LOCATION + NEIGHBORHOOD FABRIC



## Location + Neighborhood Fabric

Locating the project in a neighborhood with existing infrastructure, transportation and services enhances livability, leads to more resource-efficient development of land, saves energy, and increases the vitality of the community.

- 2.1 Sensitive Site Protection
- 2.2 Connections to Existing Development and Infrastructure
- 2.3 Compact Development
- 2.4 Increased Compact Development Resources
- 2.5 Proximity to Services and Community Resources
- 2.7 Preservation of and Access to Open Space
- 2.8 Access to Transit
- 2.9 Improving Connectivity to the Community
- 2.10 Passive Solar Heating/Cooling
- 2.11 Adaptive Reuse of Buildings
- 2.12 Access to Fresh, Local Foods
- 2.13 Advanced Certification: Site planning, Design, and Management
- 2.14 Local Economic Development & Community Wealth\*
- 2.15b Access to Broadband: Connectivity



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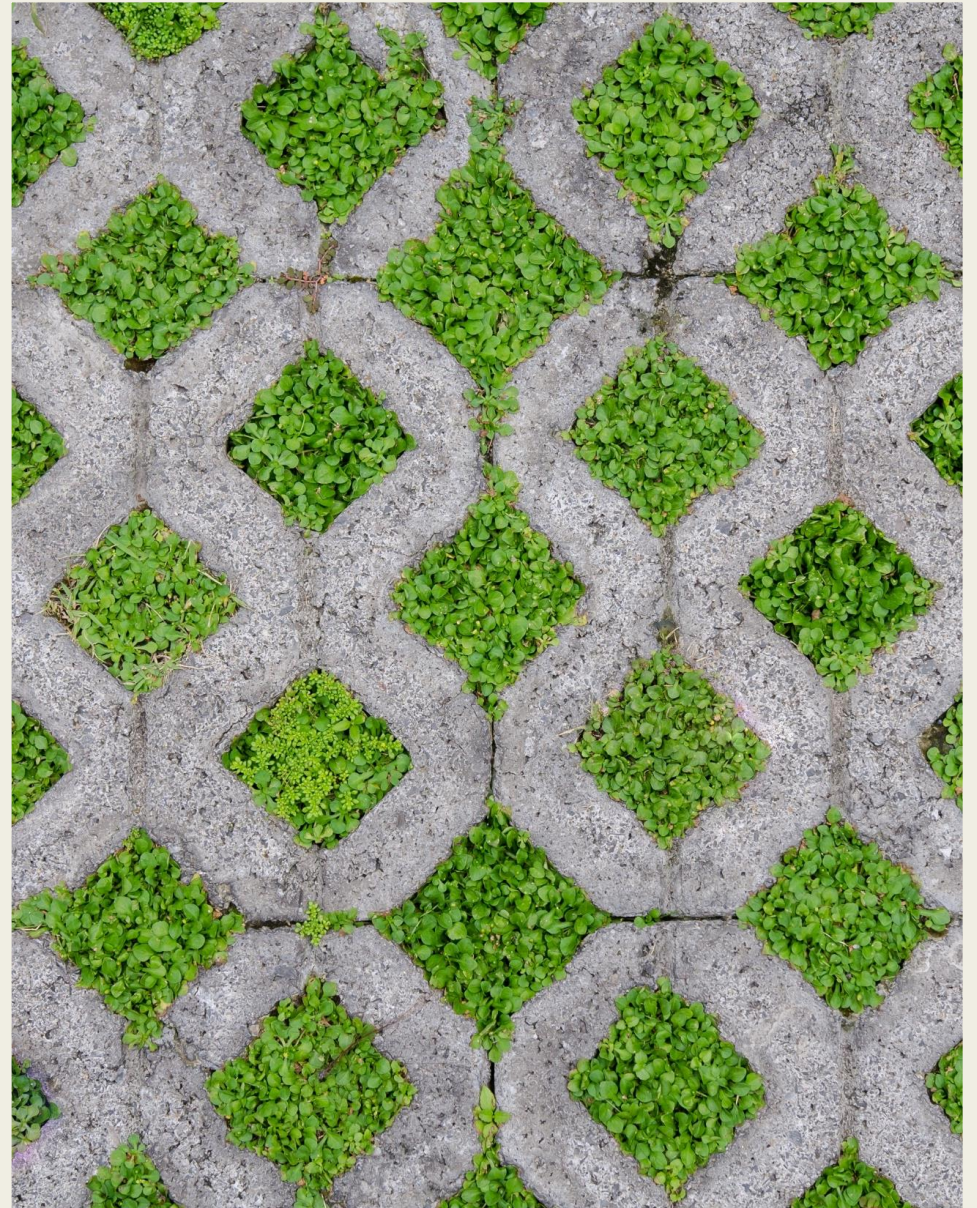
# 3. SITE IMPROVEMENTS



## 3. Site Improvements

Low-impact development principles minimize the site's environmental footprint, protect sensitive ecosystems, and reduce infrastructure costs associated with stormwater management.

- 3.1 Environmental Remediation
- 3.2 Minimization of Disturbance during Staging & Construction)
- 3.3 Ecosystem Services / Landscape
- 3.4 Surface Stormwater Management
- 3.5 Surface Stormwater Management
- 3.6 Efficient Irrigation & Water Reuse
- 3.7 Efficient Irrigation & Water Reuse





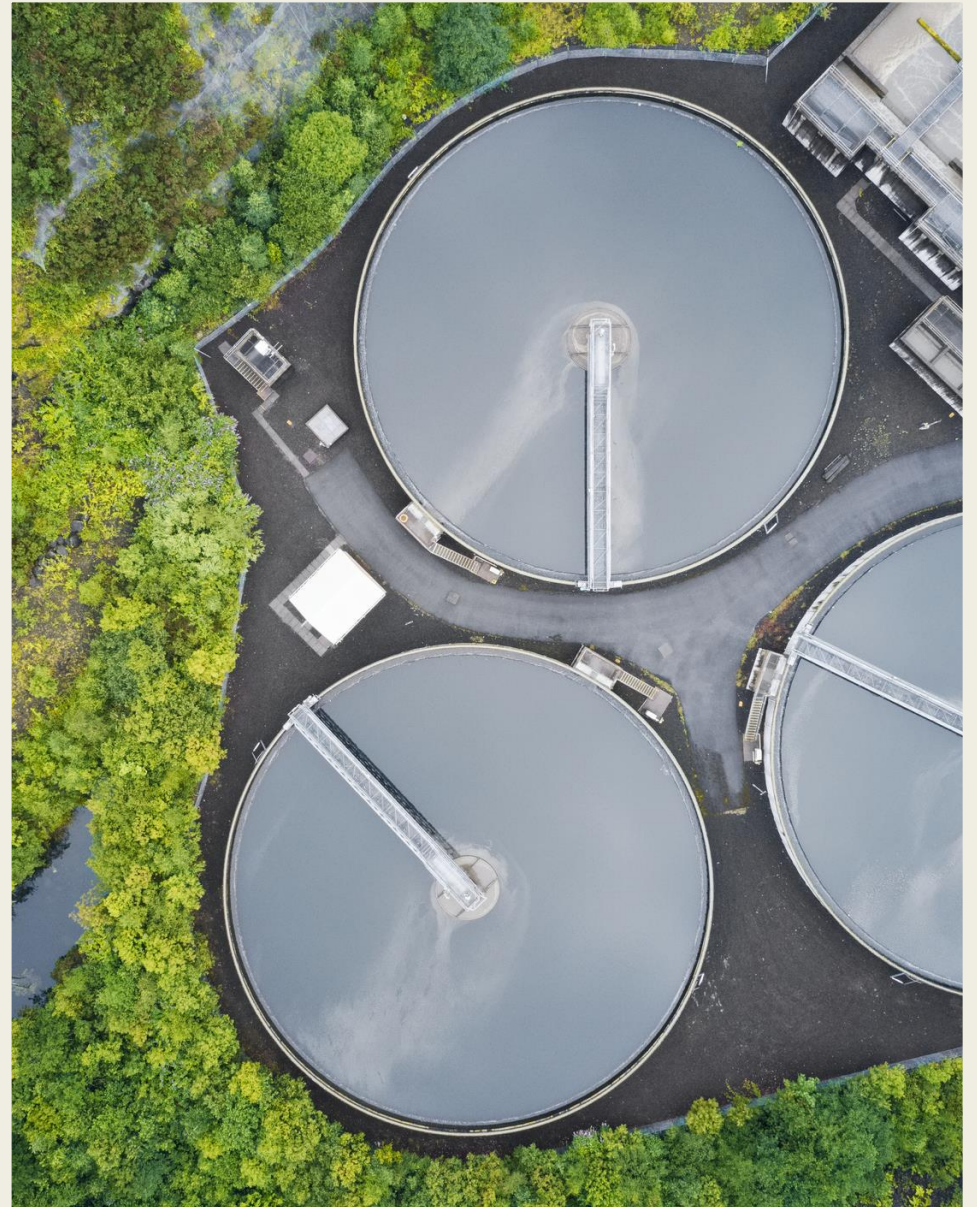
# 4. WATER



## 4. Water

Water quality and conservation practices impact our health and well-being, property operating expenses, and a limited precious resource.

- 4.1 Water-Conserving Fixtures
- 4.2 Advanced Water Conservation
- 4.3 Water Quality
- 4.4 Monitoring Water Consumption & Leaks
- 4.5 Efficient Plumbing Layout & Design
- 4.6 Non-potable Water Reuse
- 4.7 Access to Potable Water during Emergencies



## 4.3 Water Quality

**Mandatory for Substantial Rehabs of buildings built before 1986. Optional for all other building types:**

- **Replace lead service lines.**
- **Develop a Legionella water management program.**

**Optional, all project types:**

- **Test water from dwelling unit faucets** for water quality and remediate per the criteria
- **In all buildings served by private wells, test for:**
  - Nitrates
  - Arsenic
  - Coliform bacteria

# 5. OPERATING ENERGY

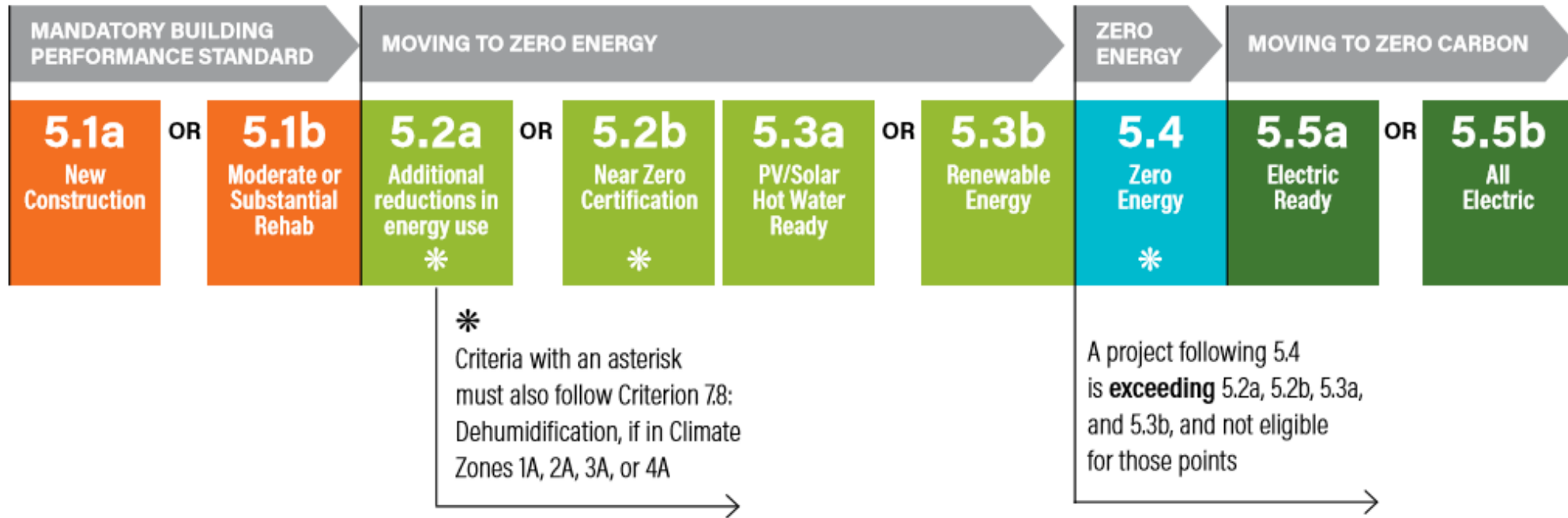


## 5. Operating Energy

- 5.1a Building Performance Standard (New Construction)
- 5.1b Building Performance Standard (Substantial and Moderate Rehab)
- 5.2a Moving to Zero Energy: Additional Reductions in Energy Use
- 5.2b Moving to Zero Energy: Near Zero Certification
- 5.3a Moving to Zero Energy: Photovoltaic/Solar Hot Water Ready
- 5.3b Moving to Zero Energy: Renewable Energy
- 5.4 Achieving Zero Energy
- 5.5a Moving to Zero Carbon: All-Electric Ready
- 5.5b Moving to Zero Carbon: All-Electric
- 5.6 Sizing of Heating and Cooling Equipment
- 5.7 ENERGY STAR Appliances
- 5.8 Lighting
- 5.9 Resilient Energy Systems: Floodproofing
- 5.10 Resilient Energy Systems: Critical Loads



# Path to Zero



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# 6. MATERIALS



# Materials

- 6.1 Ingredient Transparency for Material Health
- 6.2 Recycled Content and Ingredient Transparency
- 6.3 Chemical Hazard Optimization
- 6.4 Healthier Material Selection
- 6.5 Environmentally Responsible Material Selection
- 6.6 Bath, Kitchen, Laundry Surfaces
- 6.7 Regional Materials
- 6.8 Managing Moisture: Foundations
- 6.9 Managing Moisture: Roofing and Wall Systems
- 6.10 Construction Waste Management
- 6.11 Recycling Storage



# 7. HEALTHY LIVING ENVIRONMENT



## 7. Healthy Living Environment

Design, construction, and operations strategies may contribute to a healthier environment by reducing exposure to toxins, managing the indoor environment, and promoting health through design.

### REDUCING EXPOSURE TO ENVIRONMENTAL HAZARDS

- 7.1 Radon Mitigation
- 7.2 Reduce Lead Hazards in Pre-1978 Buildings
- 7.3 Combustion Equipment
- 7.4 Garage Isolation
- 7.5 Integrated Pest Management
- 7.6 Smoke-Free Policy

### MANAGING THE INDOOR ENVIRONMENT

- 7.7 Ventilation
- 7.8 Dehumidification
- 7.9 Construction Pollution Management
- 7.10 Noise Reduction

### PROMOTING HEALTH THROUGH DESIGN

- 7.11 Active Design: Promoting Physical Activity
- 7.12 Beyond ADA: Universal Design
- 7.13 Healing-Centered Design



# Promoting Health Through Design, 7.11, 7.12, 7.13

## PROMOTING HEALTH THROUGH DESIGN (m)

- 7.11 Active Design: Promoting Physical Activity
- 7.12 Beyond ADA: Universal Design
- 7.13 Healing-Centered Design

AND optional to pursue more than one for 8 points.



# 8. OPERATIONS, MAINTENANCE + RESIDENT ENGAGEMENT



## 8. Operations, Maintenance + Resident Engagement

Educational materials and orientations help educate residents and staff on features that were designed to deliver health, economic, and environmental benefits, as well as their role in realizing those benefits in their own lives.

- 8.1 Building Operations & Maintenance Manual and Plan
- 8.2 Emergency Management Manual
- 8.3 Resident Manual
- 8.4 Walk-Throughs and Orientations to Property Operation
- 8.5 Energy and Water Data Collection and Monitoring



## 8.5 Energy and Water Data Collection and Monitoring (m)

Collect and report project energy and water performance data.

### Method A: Properties with Only Owner-Paid Utility Bills

The property owner pays for 100% of the property's utility bills and uses these bills as the source for tracking whole-property utility data.

### Method B: Aggregated, Whole-Property Utility Data

Regardless of the split of owner-paid and tenant-paid utility bills across the property, the property owner requests aggregated whole-property utility data from the utility provider(s).

### Method C: Collection of 100% of Tenant-Paid Utility Data

The property owner collects 100% of the individual tenant-paid utility data from the utility provider(s) or tenants and tracks these along with owner-paid accounts.

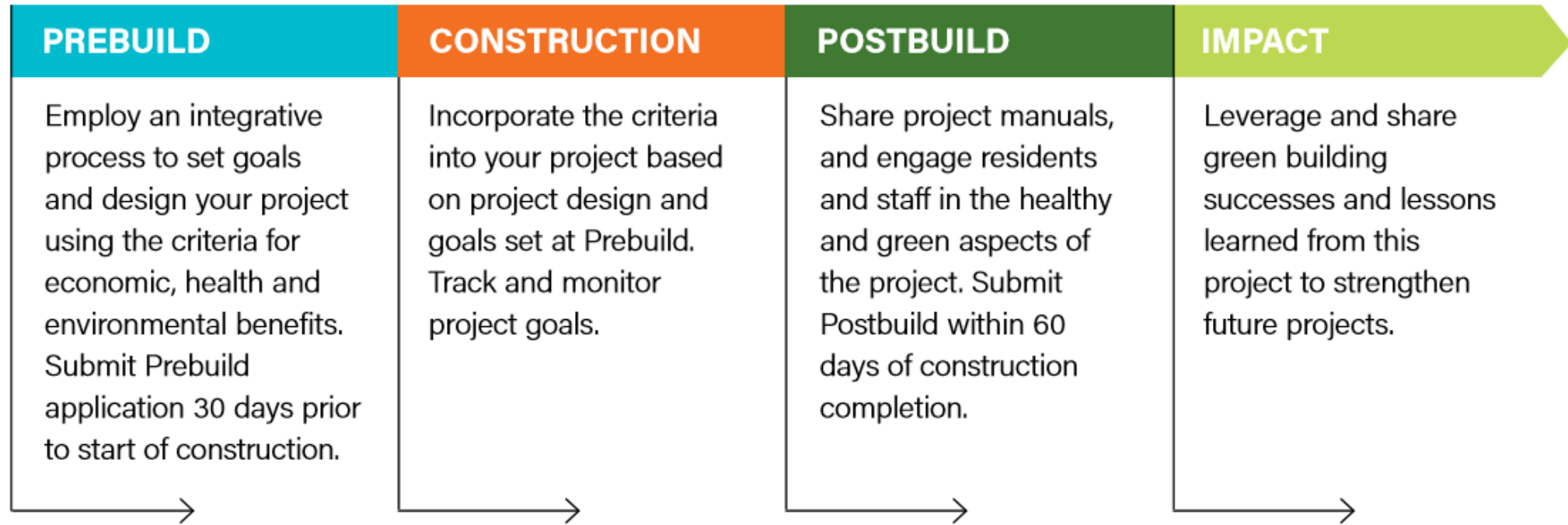
### Method D: Collection of a Sample of Tenant-Paid Utility Data

The property owner collects a sample of individual tenant-paid utility data from the utility provider(s) or tenants, which is then used to produce an estimate of whole-property utility data along with the owner-paid accounts.

# CERTIFICATION PROCESS



# Certification Process



# Thank You

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