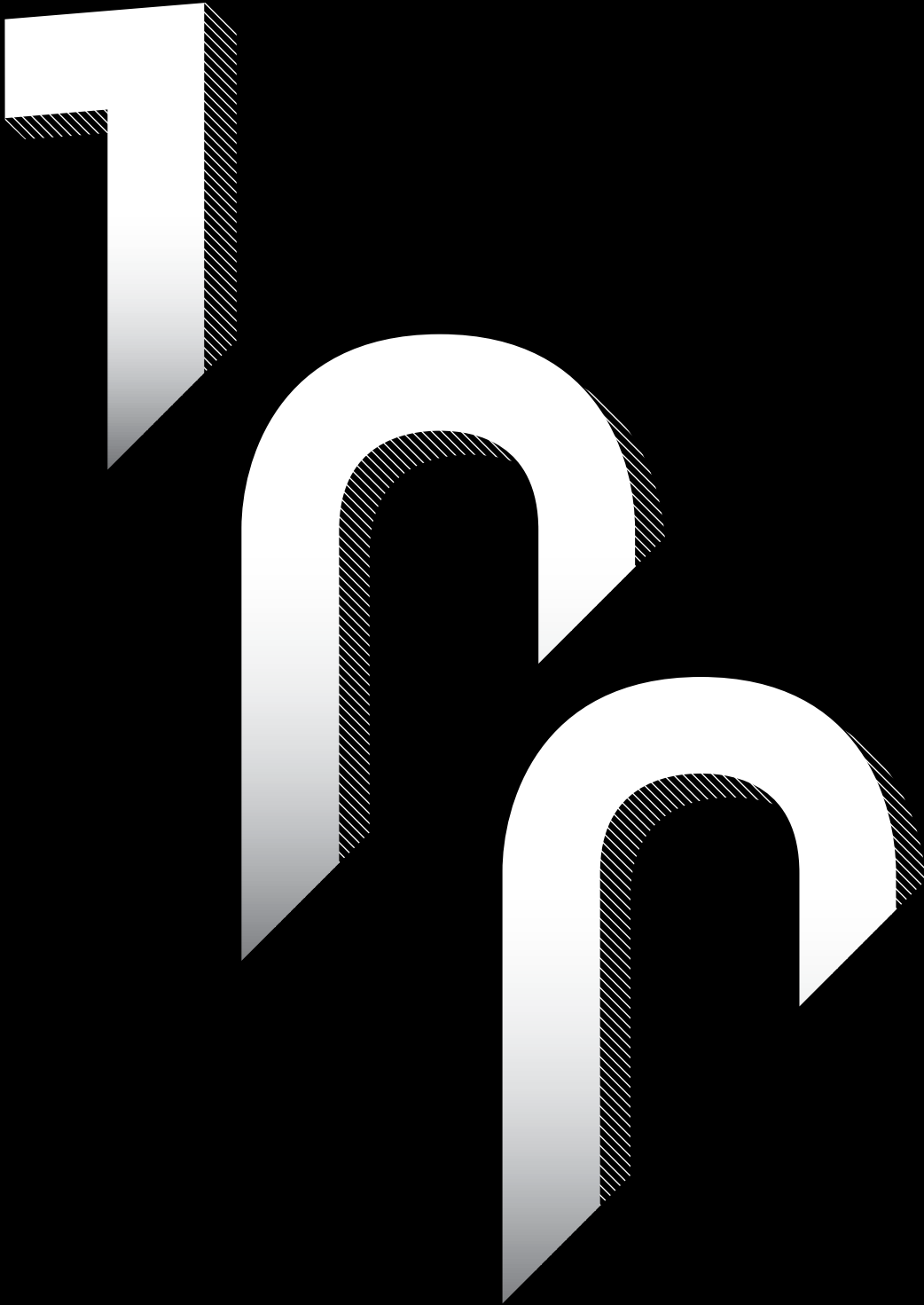


DESIGN BUREAU



SPECIAL EDITION



THE DESIGN BUREAU 100

A CARDINAL COLLECTION OF ARCHITECTURE AND INTERIOR
DESIGN THAT INFLUENCES WHERE AND HOW WE EXIST

TEN CONSIDERATIONS FOR DEVELOPERS PLANNING GREEN MULTIFAMILY HOUSING



BY GINA BUFFONE AND THE STAFF OF THE ASSOCIATION FOR ENERGY AFFORDABILITY

Director of the new-construction unit

Multifamily housing buildings can use massive amounts of energy, so we turned to The Association for Energy Affordability, a non-profit resource for residential, new, and existing multifamily and commercial buildings, to learn how to approach these projects with a green mindset and a focus on sustainability.

1 Conduct a charrette.

This collaborative planning approach promotes team input and understanding of goals at the beginning of a project. You should clearly define functional requirements for building performance and energy savings, setting expectations for subsequent testing and commissioning. For a smoother commissioning process, involve your commissioning agent in this phase.

2 Confirm design of central-heating, domestic hot-water, and air-conditioning systems.

Check for proper sizing and distribution balance, and verify the design of mechanical equipment and distribution systems with your energy consultant before you order equipment. Then ensure that the design intent is carried out during installation.

3 Make your goals inspirational but keep them practical.

Research the program requirements before selecting goals for certifications or ratings. Make sure project team members understand and agree that they are achievable. Beginning with a lighter shade of green as team members increase their knowledge is often wise.

4 Focus on the basics.

Photovoltaics, geothermal systems, and combined heat and power (CHP) are all great, but good sustainable buildings start more fundamentally. Optimized siting and orientation (where possible), a high-performing building envelope, well-designed heating and hot-water systems, and energy-efficient appliances and lighting will reduce the energy that your building consumes year after year.

5 Get testing and construction oversight.

Beautiful designs with aggressive energy-reduction plans alone won't meet performance goals. Obtain construction oversight and testing throughout the project, and watch out for shortcuts in plans or installation that will increase energy use. Also be sure to hold contractors accountable for adhering to project requirements. Commission installed building systems and make the necessary adjustments.

6 Train building operators to maintain and control systems that are consistent with equipment requirements as designed, and to recognize maintenance issues early on.

Teach property and building managers to read reports from energy-management systems and building controls, and utilize data to optimize building performance.

7 Train the trades.

Experienced contractors may resist updating "tried and true" construction techniques. Getting workers to accept new advances in materials and processes requires educating them on the sustainability goals of your project and best approaches for implementation. Contractors trained in the logic behind energy saving and sustainable methods often become advocates themselves.

8 Stretch yourself and your team.

You are building for future generations. Design and installation best practices are evolving. What is energy efficient today should become commonplace tomorrow. Look into Passive House and ABAA standards. Pursue deep energy savings wherever possible.

9 Don't overlook occupant education.

This is often the crucial missing link for a successful project, so be sure to conduct resident orientations on the purpose and functionality of the building's energy-saving and green components. Teach occupants that they benefit directly, not just the environment, and how to optimize those benefits. Seek out occupants who will partner with you to achieve sustainability goals.

10 Sow and nourish a resilient mindset across your team.

Anticipate future site conditions resulting from extreme weather. Protect your building and your investment with pre-construction site development and construction plans that exceed code and flood-zone requirements. Also make sure to locate building systems out of harm's way.