

## Sustainable design

According to the US Environmental Protection Agency, sustainable building practices include both the structure and use of environmentally responsible processes, and energy and resource-efficient materials throughout a building's life cycle from siting to design, to construction, operation, maintenance, renovation, and demolition. Green building strives to preserve and restore the surrounding habitat, making the most efficient and least disruptive use of water, drainage, energy, and natural resources.

Beyond distinguishing between the variety and intensity of uses and regulating where they should and should not go, local decision-makers and planners need to think carefully about design and sustainability standards to ensure that warehousing development and the many disparate impacts it generates are both minimized and compatible with the surrounding community. Design must not undermine valued community characteristics or the carrying capacity of physical and natural infrastructure, from the transportation network to local streams and watersheds that may already experience nuisance or severe riverine flooding.

When incorporating architectural design standards into local ordinances, municipalities should include a variety of amenities and features addressing project location, scale, intensity, local context, aesthetics, and adjacent roadway typology. They should ensure adequate buffers to neighboring uses and provide sufficient landscaping requirements, including the use of adequately sized berms, solid walls, and larger plant/tree materials to soften and screen dominating structural features, while reducing noise, dust, odors, and visual impacts.

Green infrastructure standards and stormwater ordinances should address water conservation, low impact "green" stormwater management via options such as pervious parking and drive lane surfacing, green roofs, and bioretention systems. Planting plans should use native species that will prove more durable and resilient to local conditions while maximizing carbon sequestration potential. Rain gardens and other green infrastructure and non-structural enhancements for the treatment of stormwater (particularly for communities with chronic combined sewer overflow and nuisance flooding problems) provide both water quality and wildlife benefits, as well aesthetic values that complement landscaping, public spaces, and associated amenities such as sidewalks and bike paths. Climate mitigation measures should also be employed to anticipate more extreme heat, weather, and rain, including flood control, permeable surfaces, and natural absorption systems.

Design standards should also address a building's shape, scale, color, pattern, texture, and space, using a variety of architectural elements, accent features, styles, and materials to articulate and break up a structure's monotony and line of site in a manner that reduces both visual and environmental impacts. Defined entry features, columns, awnings, adequate windows, lighting, and a variety of durable materials, all provide relief from flat facades, fragmenting large, and otherwise spaces, masses, or volumes.

Municipalities should require developers of new warehouse construction to meet enhanced green infrastructure standards that go beyond the state's minimum requirements in the Stormwater Management Rules. For example, enhanced green infrastructure improvements can make a tremendous quality of life improvement to overburdened communities, many of which experience chronic and disproportionate flooding.

Projects should be designed with their long-term viability in mind. Constructing the necessary infrastructure to prepare for the zero-emission future of goods movement not only reduces a facility's emissions and local impact now but also can save money as regulations tighten and demand for zero-emission infrastructure grows. For example:

- All warehouse buildings should strive to be LEED Silver or higher or comply with a comparable “green building” program at the same standard or higher.
- For existing warehouses, rooftop (and other suitable) surface areas that are not already covered by solar panels should be retrofitted to be solar-ready. Buildings should be designed to support solar installation (per P.L.2021, c.290), but preferably should include solar arrays and solar panel or green rooftop installations. If concrete is used in parking lots and drive aisles, it should have a solar reflective index of no less than 30, and trees planted on the premises, especially in parking lots, should be capable of providing significant shade as they mature.
- Cool pavement should be used throughout the facility to reduce heat island effects. Any rooftop equipment should have screens if visible from residential homes within a certain radius of the warehouse.
- Warehouses should also keep up external appearances, remove unsanctioned graffiti, and dead trees, and address any unsightly issues promptly.
- Operational standards should restrict truck idling time, and encourage off-peak goods movement and staggered shifts, to minimize traffic impacts.
  - In addition, towns must meet the minimum requirements for electrical infrastructure to support
  - future EV charging (i.e., Electric Vehicle Supply/Service Equipment (EVSE) and Make-Ready parking spaces), pursuant to PL 2021, c 171, which includes the adoption of [Model Statewide Municipal EV Ordinance](#), the statewide municipal ordinance.

---

*Encourage sustainability in siting, design, construction, operations, maintenance, redevelopment, renovation and demolition, including energy and resource-efficiency (e.g., solar roofs, EV ready and zero emission semi-trailers), and the preservation and restoration of the surrounding habitat, making the most efficient and least disruptive use of water, drainage, energy, and natural resources. Design projects with their long-term viability in mind, and scaled to be compatible with the surrounding area and transportation network, and utilize enhanced Green Building and green infrastructure to extent feasible.*

*Recognize the deleterious impacts of emissions (i.e., air pollutants and greenhouse gases) from diesel-powered delivery vans and tractor trailers; undertake remedies that mitigate and eliminate these impacts through public and private sector actions addressing transportation mobility choices, use of clean, renewable, alternative forms of energy. Encourage the promotion and implementation of medium- and heavy-duty truck electrification programs in overburdened communities, among other efforts to implement the Advanced Clean truck Rule.*

*State Planning Commission Policy*

---