



## 2024 AIA | DC CHAPTER DESIGN RESIDENTIAL DESIGN AWARDS

**Project Title** THE WREN

**Location** WASHINGTON, D.C.

**Date of Completion** 08/20/2020

### Project Statement

Located in DC's Shaw District, The Wren is a 433-unit, mixed-use residential building with Whole Foods Grocery as the sole retail anchor at the ground level. The architecture and design of the project is a contemporary interpretation of the historic steel frame and masonry industrial buildings that were once the hallmark of the historic district. The project has 30% of its units at an affordable level of 30% and 50% of AMI. Above the street retail, the U-shaped building surrounds a landscaped courtyard with residential amenities. Most of the units facing the courtyard have cantilevered balconies that help build a sense of active engagement and vitality. At the penthouse level, additional residential amenities include a swimming pool, dog walk, and community garden. A bridge over the internal courtyard provides a unique amenity space for passive lounging and informal gathering as well as unparalleled views of the Washington Monument and Capitol.

JURY CITATION CHECKLIST	
<input checked="" type="checkbox"/> Design for Integration	<input type="checkbox"/> Design for Resources
<input checked="" type="checkbox"/> Design for Wellbeing	<input type="checkbox"/> Design for Change
<input type="checkbox"/> Design for Discovery	<input type="checkbox"/> Design for Ecosystems
<input checked="" type="checkbox"/> Design for Equitable Communities	<input type="checkbox"/> Design for Water
<input type="checkbox"/> Design for Economy	<input type="checkbox"/> Design for Energy

### Design Narrative

The building's materiality varies from a dark metal frame referencing the industrial history to the richly colored infill brick panels, which add texture and reference the neighboring university and residential architecture. The three primary corners of the building, conceived as contemporary prismatic glass bays to mark the residential entry and gateway corners, are a nod to the forward-looking neighborhood. As a LEED Gold project, the paint, adhesives, sealants, and flooring are of low volatile organic compounds (VOC's) to encourage healthy air quality. Additionally, the private and shared resident spaces maximize access to light and fresh air. All units are designed to have quality views to the outdoors, a feature confirmed by a cove.tool analysis. The rooftop capitalizes on opportunities to design responsibly for stormwater and renewable energy generation, most notably areas of green roof and a solar array, while also accommodating a dynamic program of amenities.

### Community Engagement

One of the project's core design pillars is equity. Accordingly, the building provides the Shaw community with a crucially needed grocery store, a welcomed resource which benefits the fast-growing neighborhood. The Wren's allocation of 30% affordable units at 30% and 50% of the AMI, extends its impact beyond its physical structure. The offering welcomes individuals and families from various socioeconomic backgrounds, promoting economic diversity and social inclusion. The project advances Shaw's resurgence while maintaining its historic culture in two primary ways. First, its provision of affordable housing fosters inclusivity and reduces housing disparities, enhancing the neighborhood's social fabric, and supporting economic and social diversity. Second, the project includes a grocery anchor in response to repeated neighborhood requests. It satisfies a critical need for access to fresh and healthy food options as well as activating the sidewalk with social space and spurring local economic development immediately adjacent to Howard University.

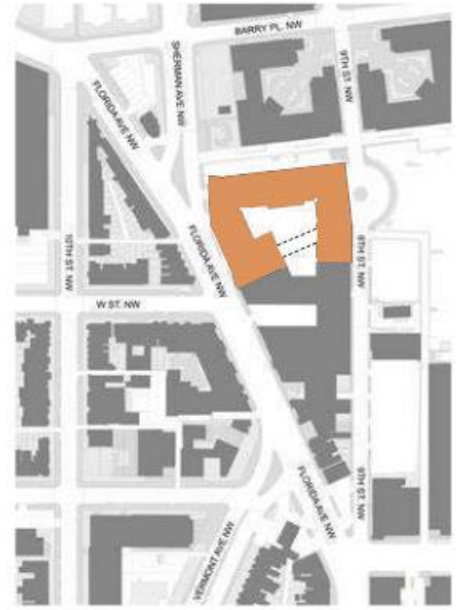
### Sustainability and Resilience

The Wren transformed an existing surface parking lot into an abundance of gardens at multiple levels of the building with diverse native plants. This creates a variety of habitats, reduces required maintenance, and enhances resilience against climate challenges, thus ensuring long-term sustainability that will only grow as the gardens mature. Comprehensive storm water management systems (extensive and intensive green roofs, storm water detention vaults, water re-use for irrigation) furthers this resiliency and significantly reduces the burden on the regional storm water infrastructure.

The Wren earned an impressive 7 points under LEED's Materials and Resources category. The Embodied Carbon LCA concluded a kgco2eq/m2 value of 348, driven by the concrete structural system. To lessen the building's embodied carbon impact, the design employs a post-tensioned concrete structure for the building and exposes concrete as a finish material in amenity spaces. Exterior materials were selected to provide a durable, energy-efficient envelope.

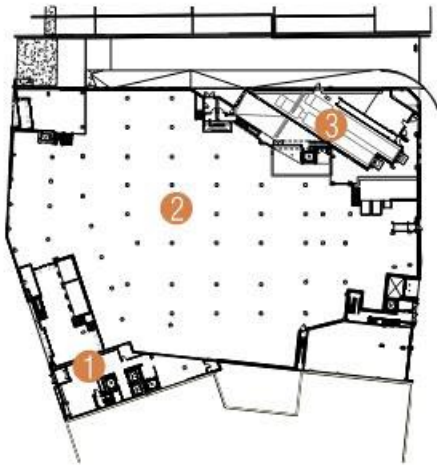
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SCALE 1" = 10' SITE PLAN

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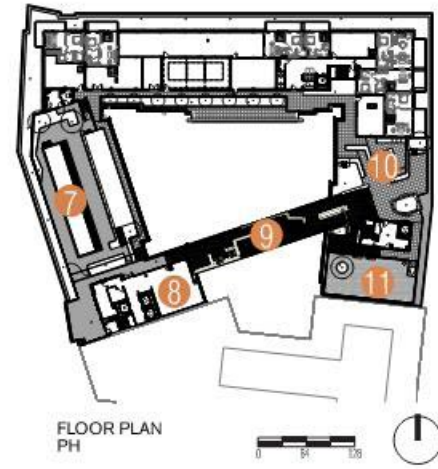
FLOOR PLAN  
Ground Level



FLOOR PLAN  
Level 2



FLOOR PLAN  
Level 4

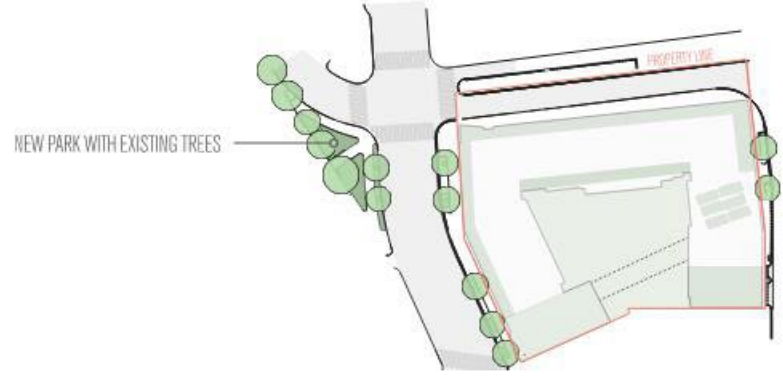
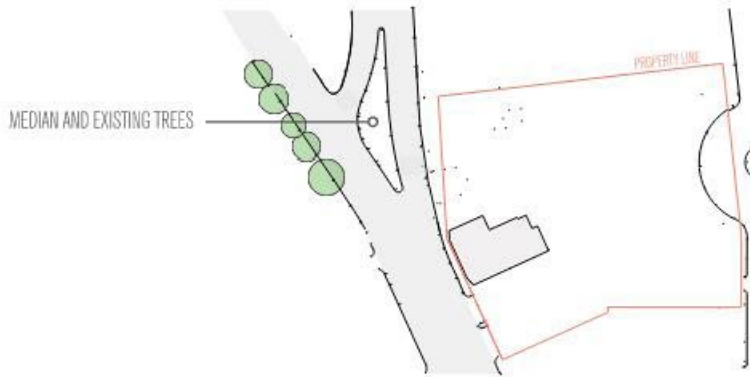


FLOOR PLAN  
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LEGEND

- 1 LOBBY AREA
- 2 WHOLE FOODS
- 3 LOADING
- 4 COURTYARD
- 5 AMENITY
- 6 GREEN ROOF
- 7 POOL
- 8 AMENITY
- 9 BRIDGE
- 10 ROOFTOP GARDEN
- 11 DOG RUN





**PARK FOR THE NEIGHBORHOOD**

Beyond the immediate project boundary, the project had the opportunity to redesign the adjacent street, necessitated by the grocery store at the first level. Not only did the design team choose to preserve the vegetated area provided by the existing median, but it was also shifted to be integrated into the street re-design as a small park, saving existing trees and increasing the pedestrian experience by providing additional shade and a place of vegetated respite in the urban environment. The building design prioritizes ecological health, showcasing a commitment to ecosystem-centric planning. The site was previously an asphalt surface parking lot with minimal areas of unmaintained vegetation. The Wren has 26% lot area that supports vegetation, including green roof, native plantings including trees, and community gardens.



SITE PRE-DEVELOPMENT



SITE POST-DEVELOPMENT



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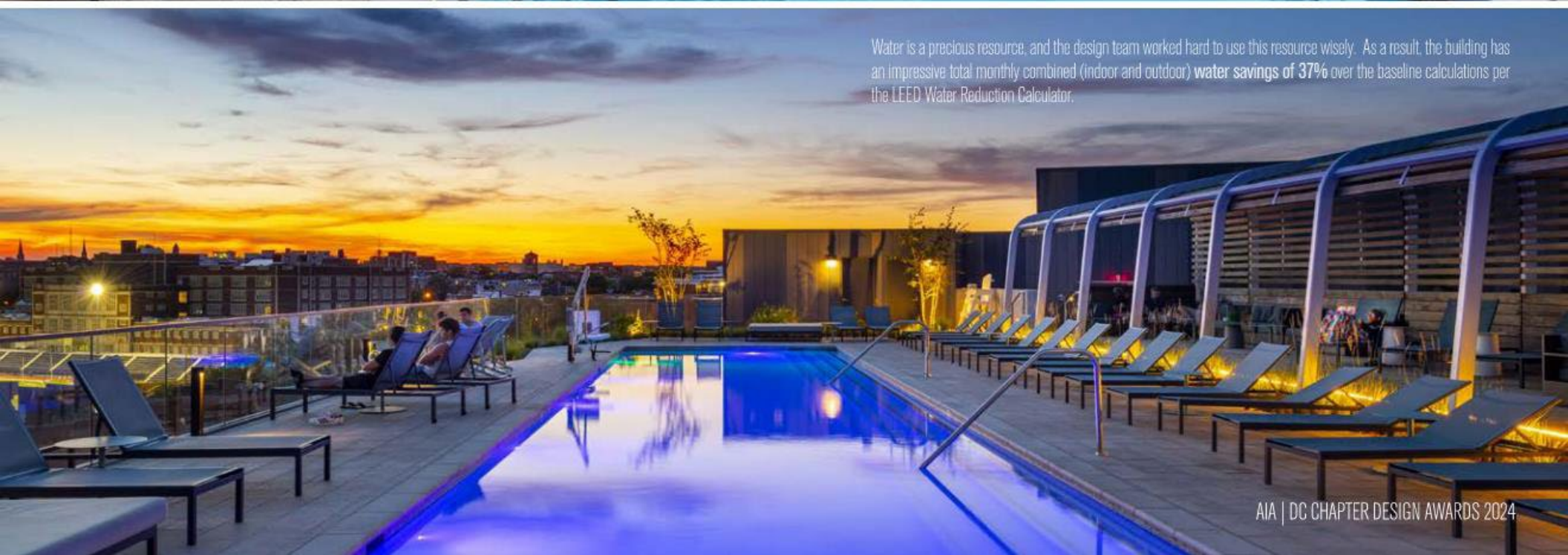
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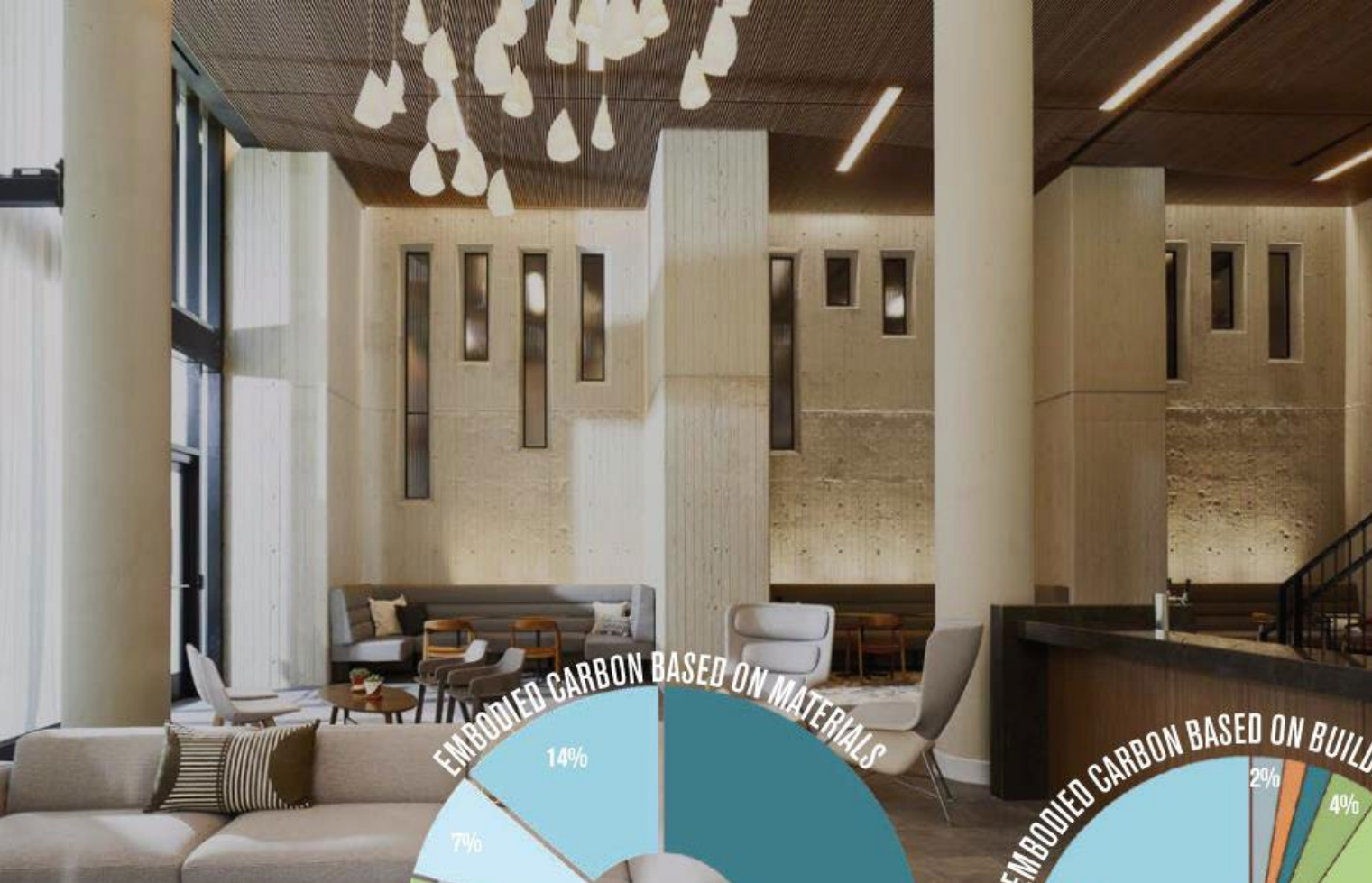
The rooftop bridge spans the internal courtyard and serves not only as a solution to access and egress issues, but also hosts additional shared programs to the active rooftop offerings. The bridge leverages the Wren's stunning vistas of DC, linking historic and cultural threads with the modern rooftop gardens to create an unparalleled tapestry of visual and place-making experiences.

At the penthouse level, additional residential amenities include a swimming pool, dog walk, and community garden. A bridge over the internal courtyard expands the space. It provides additional unique amenities for outdoor cooking, lounging, and informal gathering, as well as unparalleled views of the Washington Monument and Capitol.



Water is a precious resource, and the design team worked hard to use this resource wisely. As a result, the building has an impressive total monthly combined (indoor and outdoor) **water savings of 37%** over the baseline calculations per the LEED Water Reduction Calculator.





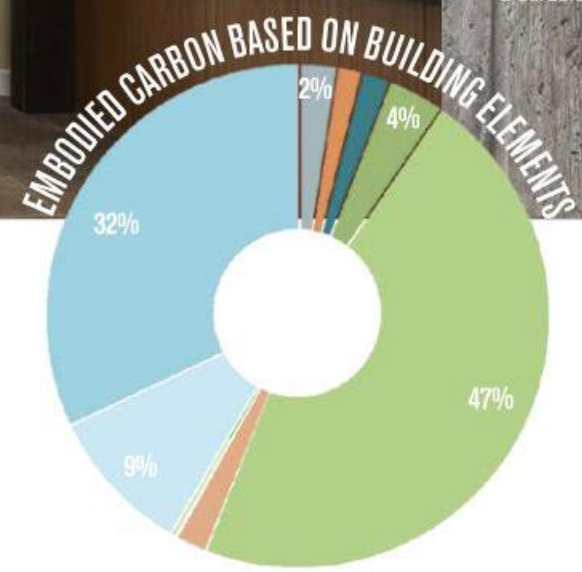
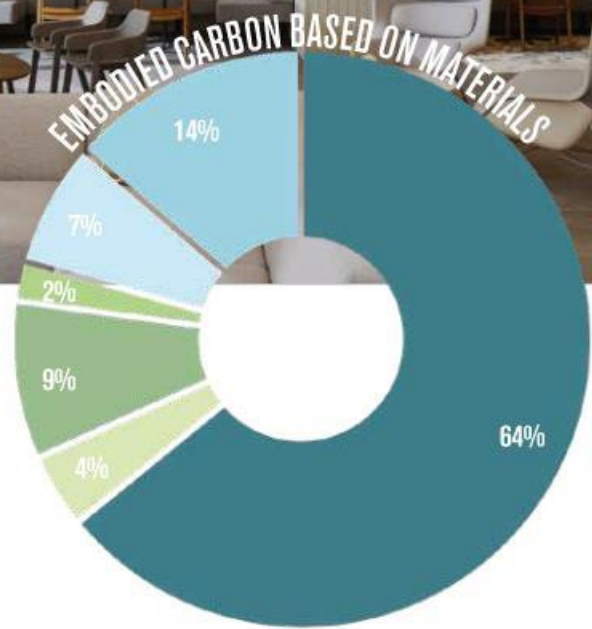
The durability of materials and structural system gives this building an estimated

**75+** YEARS

resulting in carbon intensity of

**4.6** kgCO<sub>2</sub>eq/m<sup>2</sup>/year

The Wren earned an impressive **7 OUT OF 9** points under LEED's **Materials and Resources** category. Materials for the exterior skin were selected to provide a durable, energy efficient and long-lasting envelope.



- CONCRETE
- MASONRY
- METALS
- WOOD | PLASTICS | COMPOSITES
- THERMAL + MOISTURE PROTECTION
- OPENINGS + GLAZING
- FINISHES

- CEILINGS
- CURTAINWALL MULLIONS
- CURTAINWALL PANELS
- DOORS
- FLOORS
- ROOFS
- STAIR + RAILINGS
- STRUCTURE
- WALLS



**EMBODIED CARBON**

The Embodied Carbon LCA concluded a kgCO<sub>2</sub>eq/m<sup>2</sup> value of 348 across all product, construction, use, end of life, and Module D stages, driven by the concrete structural system.

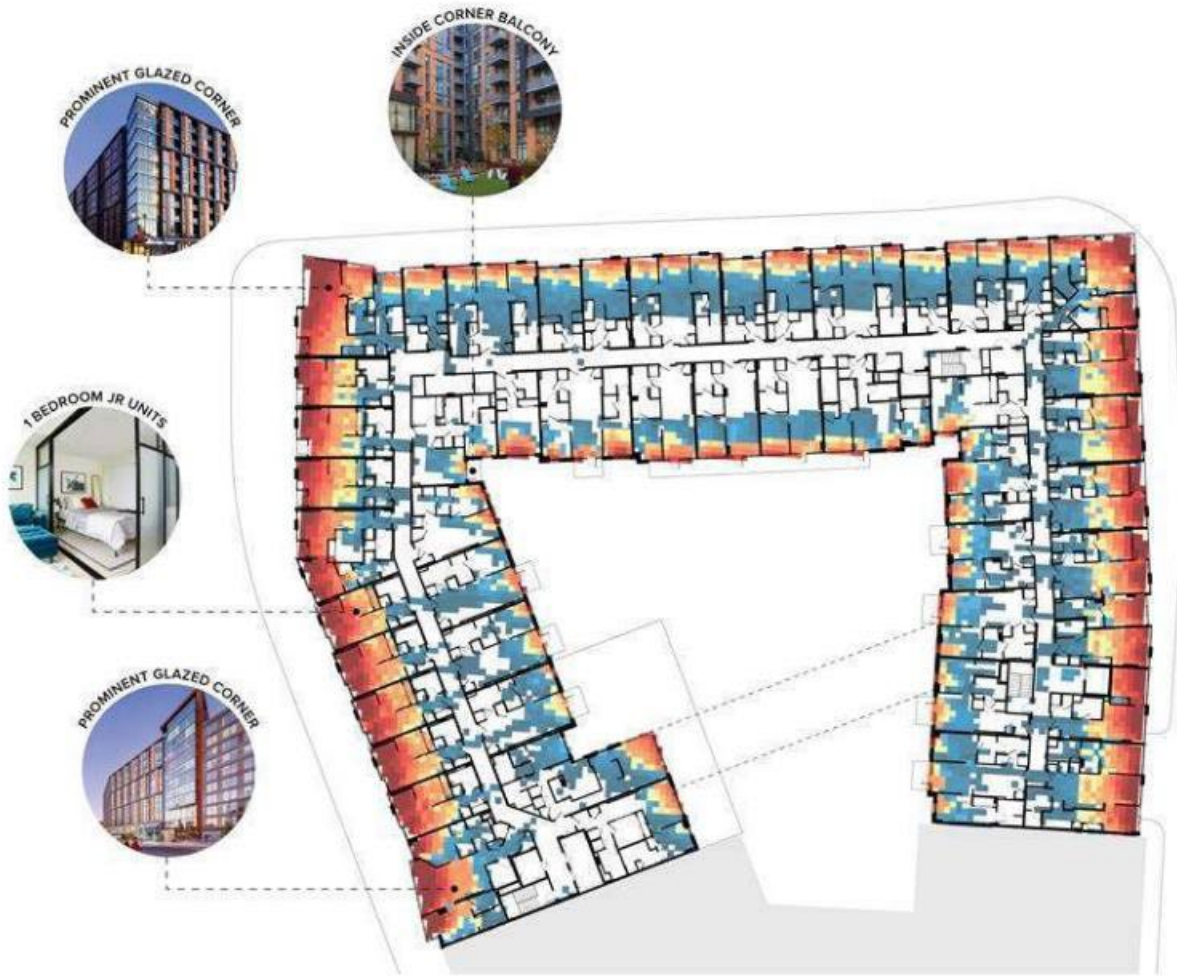
Two strategies to reduce embodied carbon were employed, the first being using structure as the finish material in amenity spaces and lobby as appropriate to use less additional finish material. The second strategy was to reduce the impact of using concrete. The team opted to switch from conventional concrete framing to post-tension slabs for the residential levels. This reduced the relative percentage impact for the floors to 47%, down from the typical 55% we've seen in other projects of similar size using concrete structure.





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The architecture and the interior design work together to create a unified identity and experience. From the use of warm and natural exterior materials such as brick and corten steel, to exposed concrete and natural wood finishes throughout the interior, the building exudes a raw, authentic quality. This is furthered by the careful consideration of natural light and connection to the outdoors throughout using strategies such as transparent partitions in units and open planning in amenity spaces to frame views of the lushly planted courtyard and roof spaces. The interiors and their strong connection to outdoor spaces extend the theme of an organic, healthy oasis in the city that promotes community and belonging and looks forward while honoring the past.

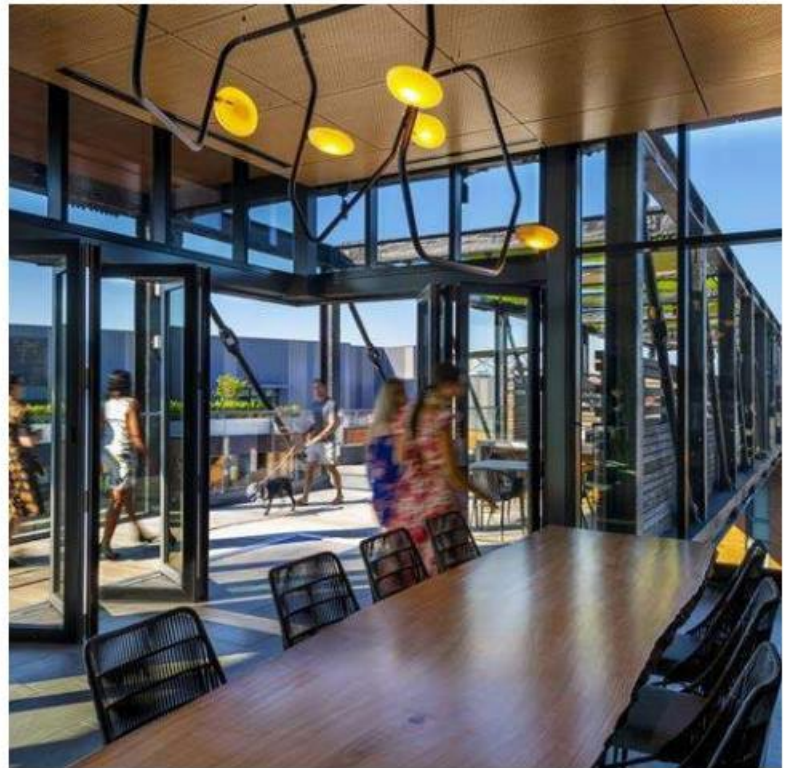


*\*percentage indicates percentage of daylight hours that natural daylighting meets code minimum requirements*

**VIEWS + DAYLIGHTING**

The amenity spaces are connected physically and visually to outdoor spaces through large, glazed walls, with internalized uses taking advantage of open planning to maintain views and daylight. Additionally, the private and shared resident spaces maximize access to light and fresh air. The residences are designed with large windows, transparent bedroom partitions, operable windows, and a high percentage of private balconies. A cove.tool analysis was completed on daylighting and quality views metrics for residential units.

**39%** of units meet daylighting requirements for **100%** of occupied spaces | **43%** of units meet daylighting requirements for **50%** occupied spaces. Of the remaining **18%** of units that are not adequately daylighted, **67%** have outdoor balconies to provide resident access to natural light. **100% of units have quality views to the outdoors in all regularly occupied spaces.**



The U-shaped tower surrounds a landscaped courtyard at level 2 above the grocery. It hosts both private residential terraces and a shared passive courtyard. Most of the units facing the courtyard have cantilevered balconies that help build a sense of active engagement and vitality. The project employs several strategies to contribute to the health of the regional watershed, a stormwater management vault with a total area of over 1,600 square feet with a required detention volume of just under 9,000 cubic feet was installed at the P2 parking level to regulate the flow into the City's storm system. This system was designed to meet 100% of the required stormwater retention volume.



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**18,800+**  
square feet of BMP green roof and planters  
were utilized at street level, rooftops, and  
the heavily planted amenity courtyard.



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