

# 1 Java Street

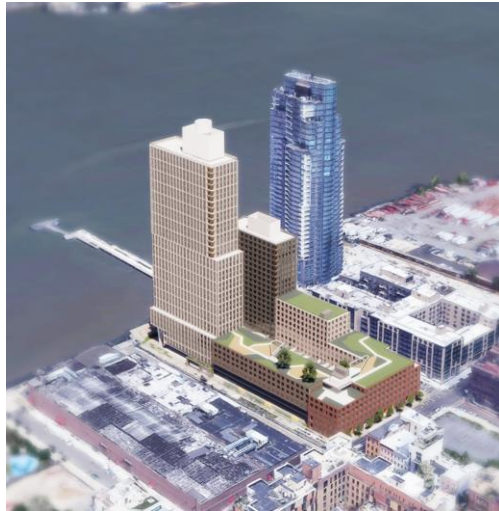
## Category C: Site-Specific Implementation Project

### NYSERDA PON 4614

Kings County

Technical Lead: *ZBF Geothermal*

Anticipated completion of project:  
*December 2025*



## The Site & Beneficiaries

Lendlease, along with ZBF Geothermal, CDM Smith and ARUP, are developing 1 Java Street, a new construction project occupying a full city block on the East River waterfront in Brooklyn, New York. The new development will include 36-story and 20-story towers, with a seven-story podium area. The two towers, along with townhomes and commercial spaces, will contain 840 apartments, or approximately 611,000 sq ft of rentable space. Apartments will be a mix of studio and one-, two-, and three-bedroom units and townhomes. A total of 252 apartment units (30 percent) will be affordable housing. In addition to apartment space, the development includes 14,000 sq ft of retail space, a 36,700 sq ft parking garage, rooftop gardens, a courtyard and a pool. The project targets an ecofriendly HVAC and domestic hot water system that eliminates Local Law 97 penalties and offers the lowest lifecycle costs for the tenants.

## Potential Thermal Resource

The 1 Java development is being built to meet LEED v4 BD+C Gold and Fitwel standards. The addition of the proposed geothermal system will allow the development to be net zero carbon emissions when supplied by clean electricity. A hybrid approach was chosen that reduces the peak heating load by 16 percent and the peak cooling load by 19 percent. The project will use a carbon dioxide (R-744) refrigerant system for domestic hot water, vertical stack heat pumps for space conditioning, centralized water source dedicated outdoor air systems (DOAS) for ventilation, and water-to-water heat pumps to heat the swimming pool and to thermal balance the geothermal system.

## Lessons Learned

With the current ban on natural gas in New York City starting in 2027 for buildings above seven stories, case study projects are needed to showcase the benefits of geothermal technology to developers and other parties. Once constructed, this project will be the largest high-rise multi-family geothermal system in the United States. The project team is committed to providing a technology transfer plan as part of the NYSERDA funded project with lessons learned available for future geothermal projects.