



# Claiborne Pell Elementary School

Newport, Rhode Island



Photo Credit: Newport Public Schools

## General Information

**Location:** 35 Dexter Street Newport, RI 02840

**Scope:** 105,565 gross square feet of new construction

**Cost:** \$28 million

**Completion:** 2013

**Enrollment:** 865 PK-4th graders

**Architect:** HMFH Architects, Inc.

**Engineer:** Garcia Galuska Desousa Engineers Inc.

**Certification:** NE-CHPS Verified;

US Department of Education Green Ribbon School

## Project Summary

Opening in time to welcome over 865 pre-kindergarteners through fourth graders for the 2013-2014 school year, the **Claiborne Pell Elementary School**, located in Newport, RI, is the newest high performance school facility in the state. The Pell Elementary School provides a safe and healthy 21<sup>st</sup> century learning environment and replaces the city's four aging elementary schools. The new two-story school building includes a PK-1 Lower School and a 2-4 Upper School supported by a shared cafeteria, gymnasium, and media center.

## Claiborne Pell Elementary: A Verified Green School

The Pell Elementary School has recently been verified by the Rhode Island Department of Education as a Green School built in accordance with the **Northeast Collaborative for High Performance School (NE-CHPS)** criteria. Besides meeting all the prerequisites, the facility also pursued 29 additional elective credits to achieve:

- Energy performance 50 percent above code (ASHRAE 2009) with projected savings of \$116,855 annually.
- 35.35 kBtu/s.f./yr
- 40 percent reduction in portable water use
- Effective lighting, thermally comfortable, and healthy indoor air



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Below is a summary of some of the sustainable design elements and high-performance features of Pell Elementary School:

## Site

- **Building orientation:** Classroom wings are oriented on an east-west axis, reducing the cooling load and allows for maximized daylighting without glare.
- **Site selection:** The new building is located on the site of a former school, eliminating the additional disturbance of undeveloped lands.



Ribbon cutting for the dedication of the new Claiborne Pell Elementary School

Photo Credit: Dave Hansen ([newportri.com](http://newportri.com))

## Energy

- **Building Envelope:** Well-insulated walls and roofs provide a compact envelope. High-performance double glazed windows tailored to different solar orientations to maximize visible light transmission while reducing solar heat gain.



- **Lighting:** More than 77% of classrooms are designed to effectively utilize daylighting and replace at least 25% of total electrical illumination. The building also incorporates daylight dimming and low-wattage light fixtures along with occupancy sensors.

- **Energy Management System:** An automatic temperature control and building energy management system provide system controls, monitoring and feedbacks, and enable communication with a town-wide energy management system.

- **Air Ventilation System:** A displacement ventilation system delivers clean air supply. Energy recovery and variable frequency drive (VFD) fans provide a comfortable indoor environment during the summer without the need for air conditioning.

- **Heating system:** The boilers are high performing condensing type with energy efficient VFD pumps.

## Water

The combination of low-flow, dual-flush plumbing fixtures and the selection of drought resistant plantings result in a reduction of potable water use by over 42%.

## Materials

The building materials meet or exceed the interior low VOC, recycled content and regionally produced goals in NE-CHPS. Over 80% of construction and demolition waste was recycled.

## Acoustics

Designed building spaces meet or exceed ANSI 12.60 for Classroom Acoustics background noise, reverberation time, and room to room sound isolation. High performance ceiling tiles and wall panels provide effective noise absorption.

## Project Funding

The project was funded in part by the [RI Department of Education](#). Additional energy efficiency rebates were provided by [National Grid](#) for high efficient lighting and VFD.

Newport Public Schools is currently pursuing a [RI Office of Energy Resources](#) grant to install a 100kW rooftop photovoltaic system that was designed for this project.

*This case study was prepared by NEEP with information provided by) HMFH Architects, Inc. To learn more about this project, please contact Paul Fagan, Director of Facilities, Newport Public Schools ([paulfagan@newportrischools.org](mailto:paulfagan@newportrischools.org)). For more information about NE-CHPS, contact Carolyn Sarno, NEEP Senior Program Manager, High Performance Buildings, at [csarno@neep.org](mailto:csarno@neep.org) or 781-860-9177 ext. 119.*