



Case Study: Element

PROJECT DESCRIPTION

Project type:	Hotel (Hospitality), extended-stay prototype
Project gross SF:	Varies, prototypical SF: 79,035 SF gross
Number of keys:	Varies, prototypical: 123 guest rooms
Location:	Mostly continental US, locations include Lexington, MA; Houston, TX; Summerlin – Las Vegas; NV; Ewing, NJ; Lone Tree, CO

INTRODUCTION

Launched in 2006, Element is Starwood's first brand to embrace a comprehensive sustainability program and the first major hotel chain to mandate LEED certification. Designed for longer stays, and consisting entirely of new-build hotels, Element is uniquely positioned in the industry to spur widespread green development.

The project team selected USGBC's LEED-NC system as the framework and partnered with Terrapin Bright Green and YRG Sustainability to develop a 5 climate solution focusing on Procurement, Design & Construction, FF&E, Education, Operations & Maintenance, ongoing consumable purchased and external Service Supplies & Equipment.

Starwood's first hotel Element hotel in Lexington, MA which opened in July 2008, was chosen as a working laboratory to test sustainable solutions for construction, products, design and operations. The team developed a strategy for achieving LEED certification and conducted a proof of concept for the prototypical design of the Element brand. Element Lexington achieved LEED-NC Gold certification in December 2008.

SUSTAINABLE ATTRIBUTES - OVERVIEW

Committed to delivering a no-compromise, eco-chic experience, the project team selected strategies that would deliver both an environmentally responsible brand as well as a great guest experience. Guest rooms are equipped with energy-efficient appliances and lighting and feature spa-like bathrooms with water-efficient rain showerheads. The prototype incorporates low VOC materials and a Green Cleaning program improving the indoor air quality for guests and staff.

Each Element hotel is infused with natural light, featuring a 16-foot window wall in the lobby and oversized windows in each guestroom providing sightlines to the outdoors. Guests driving hybrid cars are rewarded with priority parking and the hotel provides complimentary bikes for guests and staff use.

DEVELOPER GUIDANCE – ELEMENT LEED ROADMAP

The case study conducted at Element Lexington was utilized as a basis to create an online LEED Roadmap for Element developers providing guidance on the execution and documentation of LEED-NC certification. The roadmap maps the pursuit of all 7 LEED prerequisites and a minimum of 29 LEED credits, 22 of which have been identified as prototypical design and brand standard credits. The remaining 7 credits needed for certification may be selected at the discretion of each developer. To guide this process, Starwood has identified 15 cost-effective discretionary point opportunities for an Element build.

Also included in the roadmap are lessons learned from the LEED pursuit at Element Lexington, e.g. an explanation of why a credit was or was not pursued, strategies, costs, outcomes, completed documentation and other resource documents.

The roadmap establishes a cost-effective strategy and guidelines for pursuing USGBC's LEED-NC Version 2.2 certification at ELEMENT hotel developments. Starwood's owner and developers are expected to significantly benefit from following the roadmap by providing a streamlined process and the cost and time reduction related to the pursuit of LEED-NC certification.

SUSTAINABLE SITES

Several credits in this category have been included in Element's prototype design and brand standards, such as the provision of alternative transportation options and preferred parking for low-emitting and fuel-efficient vehicles. Other credits have been identified as site dependent credits that can be achieved at no- to-low-cost in instances where site conditions are favorable.

Element Lexington specifically achieved the following credits:

- Brownfield Redevelopment: asbestos remediation
- Public Transportation Access: the hotel is located within 1/4 mile of one or more stops for two or more public or campus bus lines usable by building occupants
- Bicycle storage and changing rooms, in addition Element hotels provide complimentary bicycles for guests and staff use
- Preferred parking for low-emitting and fuel-efficient vehicles
- Parking Capacity: meets but not exceeds minimum local zoning requirements
- Protect or Restore Habitat: Over 50% of the site's natural habitat was protected
- Maximize Open Space: the site has over 50% open space, far exceeding the 20% open space requirement and earning an additional credit for exemplary performance
- Implemented stormwater design quantity and quality control measures
- Light-colored roofing materials to reduce the heat-island effect
- Light-pollution reduction resulting from interior and exterior lighting

ENERGY & ATMOSPHERE

In addition to the Energy & Atmosphere pre-requirement of fundamental building commissioning, a minimum energy performance and management of fundamental refrigerants, the Element prototype also addresses optimized energy performance and a requirement for hotels to purchase Green Power to encourage the development of renewable energy technologies. Some of the implemented strategies include low-flow plumbing fixtures to reduce hot water heating loads, reduced site lighting wattage, and reduced interior lighting wattage.

Element Lexington specifically achieved the following credits:

- Optimized Energy Performance
- Measurement & verification of the buildings energy consumption
- Green Power: Element Lexington doubled the minimum requirement of 35% achieving an additional credit for exemplary performance

WATER EFFICIENCY

The prototypical design will allow most Element hotels to achieve credits related to water-efficient landscaping and an overall water reduction of 30%. Implemented design features include water-efficient faucets and showerheads, dual-flush toilets and efficient laundry equipment. Additional operational practices, such as following the green housekeeping protocol are expected to yield further savings.

Element Lexington specifically achieved the following credits:

- Water-efficient Landscaping reducing the potable water consumption by 51%
- Water Use Reduction by more than 30%

Element Lexington will save approximately 942,000 gallons of potable water per year.



MATERIALS & RESOURCES

The Element brand consists primarily of new-built properties limiting the opportunities for building or materials reuse. Therefore Element's brand and design standards focus on the responsible use of materials, giving preference to recycled content and diverting as much waste as possible from landfills during the construction and operations of an Element hotel. Recycling bins are provided throughout the hotel, including in guest rooms and public areas making it easy for the guests to participate.

Element Lexington specifically achieved the following credits:

- Construction Waste Management achieved more than a 75% diversion rate from landfill
- Recycled content building products and materials, including metals, flooring, and artwork



INDOOR ENVIRONMENTAL QUALITY

From improving the quality of the air, to minimizing pollutants and toxic chemicals, to providing ample access to natural light, Element provides a cleaner, healthier environment and a sense of well-being for guests and associates alike. The prototype incorporates low-VOC materials such as paints, adhesives and carpets as well as ample daylight in almost all of regularly occupied spaces; including offices, meeting rooms, and the employee break room.

Element's guest satisfaction index represents some of the highest among all of Starwood's brands and can be directly contributed to Starwood's commitment to indoor environmental quality. Making this commitment beyond construction and design and into operations, the brand has implemented a green cleaning program which has been the basis for a green cleaning initiative across all Starwood brands.



Element Lexington specifically achieved the following credits:

- Construction IAQ Plan during construction reducing indoor air quality problems resulting from the construction
- Low-emitting Materials for adhesives and sealants, paints & coatings, and carpet systems
- Controllability of Systems for Lighting and Thermal Comfort
- Designed for Thermal Comfort with verification via guest and employee survey
- Daylight and Views in over 98% of the regularly occupied spaces

INNOVATION IN DESIGN

Element's prototype design and brand standards provide the opportunity for pursuing several credits in the innovation category. They include Element's Green Cleaning program; a Green Education credit by providing education materials on Element's website and portal as well as an educational video in the lobby of each Element hotel; and a credit for reducing plastic bottle use by providing filtered water in guest rooms and reusable dishware.

CONCLUSION

There are many other sustainable features carrying into additional operational practices, such as sustainable food & beverage, salt water pools, refillable amenity dispensers, sustainable procurement options and a sustainable meetings program.

Element will remain Starwood's testing ground for innovative sustainable solutions and will continue to improve upon its design and operations. The brand is currently testing an Energy Management System at its flagship hotel in Lexington, MA already showing very promising results.