Introduction

This guide was developed by NPCA to help precast concrete manufacturers identify LEED credits to which precast products may contribute. The LEED Reference Guide may be downloaded as one document or by individual chapters.

Each chapter includes a set of applicable Credit Requirements as defined by the USGBC, along with a description of the contribution precast concrete products can make to sustainable construction. Many LEED credits apply to more than one category of precast, so credits are repeated within the chapters. Each product may also have several rating systems in use by the USGBC and in some cases the credits are very similar so please pay close attention to the subtle differences between credit requirements.

LEED rating systems change every few years. Some of the credits will be altered or changed for the next draft, LEED 2012, which is scheduled to be released in the fall of 2012. Case studies and other credits may be added within each chapter at any time, so please check www.precast.org/sustainability for updates.

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Acknowledgements

All LEED Credit Requirements were published with permission from the US Green Building Council (USGBC). To download the free LEED rating systems or for additional information, please visit the USGB website at www.usgbc.org.
INTRODUCTION

The U.S. Green Building Council
Committed to a Sustainable Future

The U.S. Green Building Council (USGBC) is committed to a prosperous and sustainable future for our nation through cost-efficient and energy saving green buildings. Based in Washington D.C., USGBC includes nearly 16,000 member companies and organizations, 79 local affiliates and more than 161,000 LEED Professional Credential holders. USGBC is the driving force of an industry that is projected to contribute $554 billion to the U.S. gross domestic product from 2009-2013. USGBC’s LEED green building certification system is the leading certification program for the design, construction and operation of green buildings.

There are more than 38,000 commercial projects participating in the LEED green building certification system, comprising nearly 8 billion square feet of construction space in 50 states and 117 countries. In addition, more than 10,000 homes have been certified under the LEED for Homes rating system, with more than 48,000 more homes registered.

By using less energy, LEED-certified buildings save money for families, business and taxpayers, reducing greenhouse gas emissions and contributing to a healthier environment for residents, workers and the community. USGBC supports a rich education and research agenda, including Greenbuild, the largest international conference and expo focused on green building. The Council also supports an aggressive education and advocacy program delivered at the local level through 78 chapters and affiliates across the U.S.

Industry-led and consensus-driven, the Council is as diverse as the marketplace it serves. Membership includes building owners and end-users, real estate developers, facility managers, architects, designers, engineers, general contractors, subcontractors, product and building system manufacturers, government agencies, and nonprofits. Leaders from within each of these sectors participate in the development of the LEED certification system and the direction of the Council through volunteer service on USGBC’s open committees.

The National Precast Concrete Association is a corporate member and a strong supporter of the overall purpose of the Green Building Rating System.

LEED Overview
What is LEED?
Leadership in Energy and Environmental Design is a third-party certification program and is the nationally accepted benchmark for the design, construction and operation of high-performance green buildings and neighborhoods. Developed by the U.S. Green Building Council in 2000 through a consensus-based process, LEED serves as a tool for buildings of all types and sizes. LEED certification offers third-party validation of a project’s green features and verifies that the building is operating exactly the way it was designed to.

What types of buildings can use LEED?
LEED certification is available for all building types including new construction and major renovation, core and shell developments, schools, retail (both new construction and commercial interiors), commercial interiors, existing buildings, neighborhood developments and homes. To date, nearly 8 billion square feet of construction space is included in the commercial and institutional LEED rating systems.

Information courtesy of the United States Green Building Council (www.usgbc.org)
**How does LEED work?**

LEED is a point-based system by which building projects earn points for satisfying specific green building criteria. Within each of the six LEED credit categories, projects must satisfy all prerequisites and earn a number of points from a variety of other credits.

The six categories of the commercial and institutional rating systems are: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality and Innovation in Design. LEED for Homes and LEED for Neighborhood Development each have several sub-categories under those main project types.

The number of points the project earns determines the level of LEED certification the project receives. LEED certification is available in four progressive levels: Certified, Silver, Gold and Platinum.

**LEED and Precast Concrete**

Each LEED-registered project is categorized under one LEED rating system. It is important to understand that while LEED 2009 New Construction and Major Renovations is the most widely used rating system, occasionally a unique building type may use an alternative rating system. Please check with your general contractor, engineer or architect to confirm which rating system the LEED AP (Accredited Professional) is using.

The NPCA LEED Reference Guide is a compilation of the rating systems under which many precast concrete products could contribute to a project receiving LEED points. These include:

- **LEED NC**, which is a category for new construction and major renovations. This system is the most common.

- **LEED Neighborhood Development** is a rating system used typically in mixed use neighborhoods. The intent is to create neighborhoods with jobs and residences in close proximity which would encourage more sustainable living.

- **LEED Homes** is typically used in residential construction.

- Other LEED systems include: Existing Buildings, Operations & Maintenance (EB: O&M), Commercial Interiors (CI), Core & Shell (CS), Schools (SCH), Retail, and Healthcare (HC).

If you have additional questions please feel free to contact:

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**Potential additional available credits**

Precast concrete can contribute to a variety of credits depending on the design of the project. The credits listed in the NPCA LEED Reference Guide generally apply to all precast products of this type.

**MR 1** – Building Reuse (LEED 2009 New Construction)

**GIB 5** – Existing Building Reuse (LEED 2009 Neighborhood Development). The intended purpose of this credit is to reuse the building structure during a renovation. Precast concrete building products can be reused in a new building or even used in the same project. For example, architectural wall panels could be removed and reused as wall panels on a new building addition.

**MR 2** – Construction Waste Management (LEED 2009 New Construction). This credit is intended to divert construction and demolition wastes from being disposed in a landfill. The credit requires diverting 50% of the waste based on weight. Because precast concrete is a relatively heavy material, this credit could be obtained on a demolition project. Precast concrete can be crushed and used as construction fill, road base fill, or even as recycled aggregates for new concrete.
Understanding the LEED System

It is important to note that not all precast concrete structures will automatically contribute toward LEED rating system credits.

In order for a precast concrete structure to contribute toward a LEED credit rating system, the precast must be located within the project site boundaries of one of the following:

- **LEED NC** is for new construction and major renovations. This system is the most common.
- **LEED Neighborhood Development** is a rating system used typically in mixed use neighborhoods. The intent is to create neighborhoods where jobs and residences are in close proximity to encourage more sustainable living.
- **LEED Homes** is the rating system typically used for residential construction.
- In addition there are also rating systems for Existing Buildings: Operations & Maintenance (EB: O&M), Commercial Interiors (CI), Core & Shell (CS), Schools (SCH), Retail, and Healthcare (HC)

Currently there is no LEED rating system for Infrastructure products that are part of DOT projects. There are alternative programs currently being developed that will implement sustainable measures in infrastructure. Please contact NPCA for additional information.